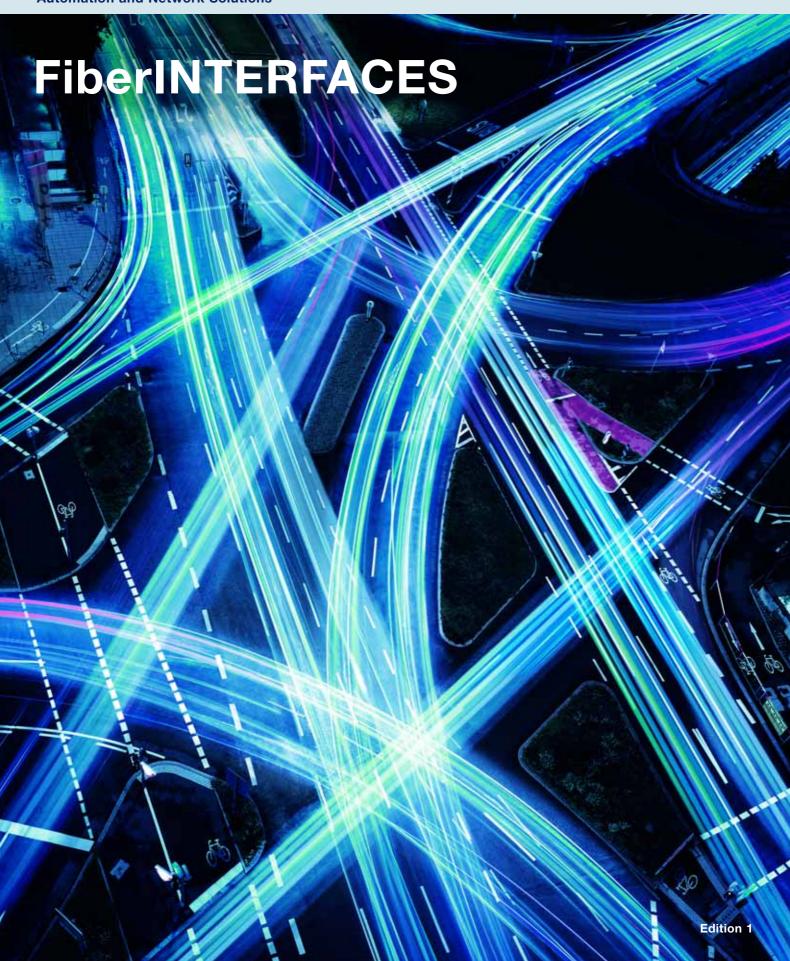


Automation and Network Solutions



Long distances are hardly a problem.

Optical communications take you far beyond the point where conventional transmission systems bite the dust.





Gone are the days when you could choose operating conditions. In today s world of highly demanding process, transport and factory automation, you take what you can get: extreme temperature variations, high moisture levels, electromagnetic interference, shock and vibration (even in explosion endangered areas) - tough working conditions are now routine. Given these circumstances, weak links in data transmission, even over long distances, are not an option, and redundancy mechanisms and a total absence of interference are required even where high transmission speeds and large ranges are involved.

Optical transmission technology therefore offers obvious advantages in the manufacturing and offshore sector, in process and traffic control technology, alarm and signaling systems in control rooms, and inter-building networks: FiberINTERFACES makes it possible to transmit data over several miles/kilometers. They connect terminal devices such as computers, image-processing devices, programmable logic controllers (PLCs) and peripheral devices together. And, with their high availability and redundancy, they are able to hold their own in the harsh world of industrial applications. Fiber optic cables can be laid directly on high-power equipment or parallel to power cables, reducing planning and commissioning costs due to highly flexible topologies, integrated diagnostics and remote monitoring.





It is good to know that there is a optical communications manufacturer you can trust - one who has been active in optics since 1980 and who, with a world's first in 1984, launched its revolutionary fiber optic-based ETHERNET. And its even better if you can rely on a versatile and comprehensive modular system of digital modules, field bus components, hybrid components and OptoQuick components, audio and video. FiberINTERFACES are just one important aspect of our work in the Automation and Network Solutions area — the Hirschmann product range extends from electrical interconnection technology to industrial ETHERNET components.

We can therefore give our customers the follwing unique benefit: under one roof, they obtain an open, highly accessible solution that covers the entire range from the field to the management level. The right product solution for every application.

Optical communication is used wherever the interference-free transmission of high bandwidth signals over large distances is required.

FiberINTERFACES eliminate inductive, capacitative or galvanic interference.

Interference factors that don't interfere.

Temperature extremes, moisture, electromagnetic fields, as well as shock and vibration – fiber optic cables give you the best under the worst of conditions.

As a pioneer in industrial communications and inter-building network technology and a technology leader in FiberINTERFACES, Hirschmann places its many years of industrial experience at the disposal of the client. It should therefore come as no surprise that such renowned solutions providers such as Siemens, Rockwell and Schneider Automation use Hirschmann products in their system solutions. Every user can benefit from our continuous and reliable product policy, the conceptualization of which encompasses much more than the current component system for digital modules, field bus components, hybrid components and OptoQuick components, audio and video, and related accessories. As a member of international standardization organizations, we actively participate in shaping the future of field bus systems. This ensures that you receive more than the advantages of a state-of-the-art optical transmission technology for your process, transport and factory automation application. You too can harvest the savings potential!

Reliable transmission of field bus signals in spite of RFI/EMI interference.

Page 8









Field buses

Field buses transmit relatively small amounts of data over large distances quickly and reliably. However, as a result of various legacy systems, there is a wide diversity of protocols and standards in use all over the world. Hirschmann therefore offers a whole range of high-quality optical fiber cable modules for various systems.

- Universal and optimized devices for PROFIBUS, Modbus, Geniusbus, WorldFIP, among others
- Any desired topology (line, star, ring)
- All types of fibers (POF, HCS, Gradients 62.5 μ and 50 μ , Single mode)
- Hard real time capability
- Extremely fast redundancy capability
- Preventive maintenance possibilities
- Ex-Class permits (Class 1, Div 2)
- Extended temperature and moisture ranges
- DIN rail mechanism





Digital modules

Clip-on modules utilize the fundamental advantages of fiber optic cables to set-up connections between the computer's COM ports and peripheral devices in automation systems – they make RFI/EMI transmission of serial communication feasible without the influence of added ground potential.

- Ranges of up to 17 km for clip-on modules
- All types of fiber, including easy-to-use polymer/plastic fibers







Interference-free and secure signal transmission over long distances.

Page 36



Video

Signal transmission of high bandwidth over large distances – where the electrical signal transmission fails, Hirschmann media converters provide comprehensive service from glass fiber video interfaces over various signal bandwidths and ranges, and remain unaffected even by interference factors such as lightning or electromagnetic fields.

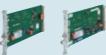
- Image transmission standard or high resolution
- Ranges up to 26 km (standard)
- Transmission of RGB and VGA signals with analog bandwidths of up to 150 MHz (high-resolution)
- Compact metal housing
- Stand-alone devices for flexible installation
- 19" slide-in modules for high port densities











Audio

Fiber optic audio systems allow interference-free transmission of sound signals over large distances and offer special advantages to stadiums, stations, studios, theatres and other public buildings, with the complete absence of humming and the possibility of placing installations in the immediate vicinity of mains and high-voltage cables.

- Totally secure against eavesdropping
- Ranges of up to 14 km
- Harmonic distortion level < 0.1 %
- Linear distortion < 0.5 dB
- Large bandwidths from 10 Hz 30 kHz



Maximum optical fiber advantages at minimum expense.

Page 60

Hybrid components and **OptoQuick devices**







Hybrid components in various versions are integrated directly on the PCB and are intended to upgrade circuits to handle optic fiber transmission technology at the lowest possible costs. The F-SMA socket is suitable for installation on a front cover. Diode brackets, optical fiber connectors and couplings complete the range of offerings.

- · High-class audio converters
- Fast digital converters
- Fast connecting optical equipments





Accessories

As a system provider, we always aim to offer you a solution that is both comprehensive as well as practical. Our products are complete only if original accessories are used.

Hirschmann accessories have been developed specially for Hirschmann FiberINTERFACES according to the requirements of practice and the concrete wishes of our clients.

- DIN rail adapters
- Mechanical adapters for clip-on modules
- DIN rail power supply units
- Slide-in power supply units
- 19" mounting racks









Information in series

Even a comprehensive catalog like FiberINTERFACES will sooner or later reach its limits – but you have no need to worry: we can send you independent catalogs that contain detailed technical information plus the complete Hirschmann range of Industrial ETHERNET and Industrial Connectors products, at your request and at no cost. Even a phone call will suffice. Or why don't you simply visit our website at www.hirschmann.com!



Passing the ultimate hardness test: Field bus components with Ex-Class clearance.

Hirschmann devices easily handle the most demanding environmental conditions.





Harsh application environments such as oil platforms, ships, driverless trains, semiconductor factories, pipelines, steel and power plants place extreme requirements on automation solutions in terms of temperature and moisture resistance, shock and vibration handling capacity. Permits for explosion-endangered areas and for nuclear power plants are issued only to the most robust devices — like the high-quality Hirschmann optical fiber modules with metal casing for different field bus systems.

You are therefore free to choose the topology. The HIPER-Ring also makes an important contribution to providing high availability of the installation and secure data transport: due to the constant dynamic ring monitoring, the reconfiguration time in the event of a network fault is only a few bus telegrams (even for long distance applications).

Optical transmission technology closes the gap between the process computers and controllers/PLCs and the operating personnel who are located at a safe distance.

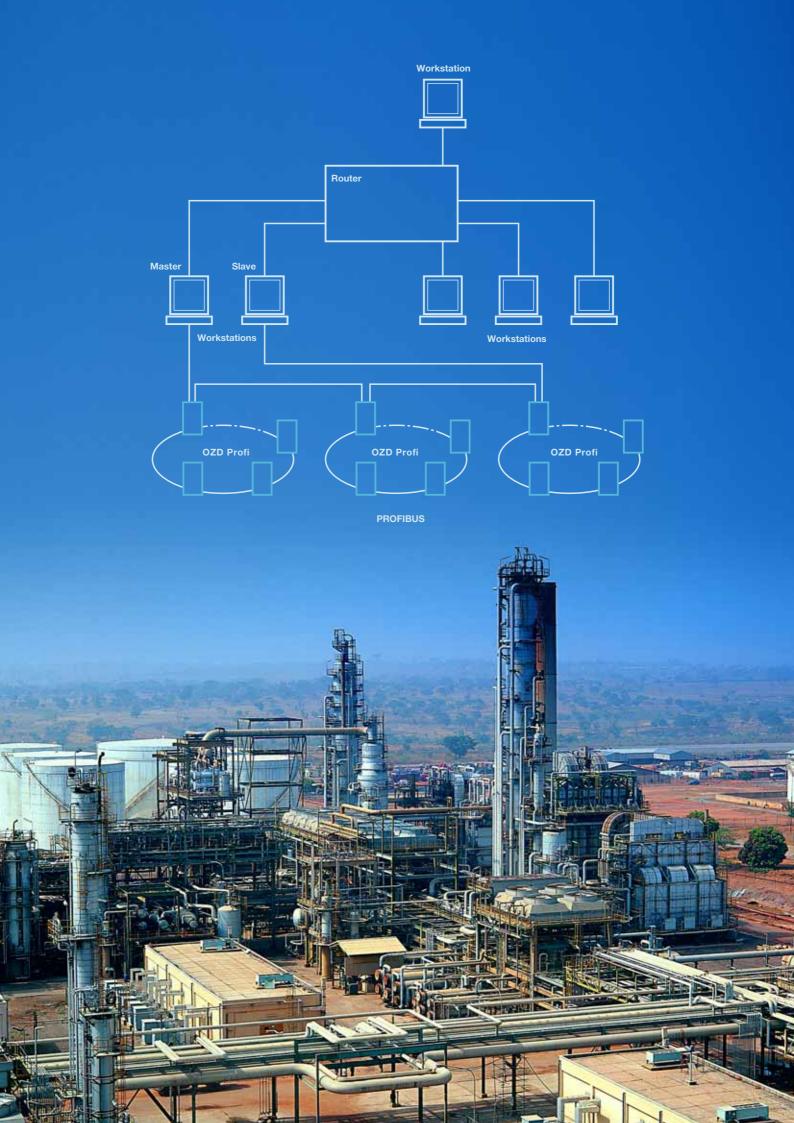
Robust metal housings offer high levels of immunity to electromagnetic interference fields.











Product description

Field Bus



PROFIBUS Fiberoptic Repeaters

Froduct description		
Description	interface converter electrical/optical for PROFIBUS-field bus networks; repeater function; for plastic FO; short-haul version; approval for Ex-zone 2 (Class 1, Div. 2)	
Port type and quantity	1 x optical: 2 sockets BFOC 2.5 (ST®) 1 x electrical: Sub-D 9-pin, female, pin assignment according to EN 50170 part 1	
Туре	OZD Profi 12M P11	
Order No.	943 728-221	
Electrical interface		
Signal type	PROFIBUS	
Bit rate	9.6; 19.2; 45.45; 93.75; 187.5; 500 kbit/s; 1.5; 3; 6; 12 Mbit/s (automatic setting)	
Signal delay time (optional input/output)	≤ 6.5 bit times	
Input/output signal	RS 485 level	
Input voltage range	-7 V +12 V	
Galvanic isolation	no	
Optical interface		
Wavelength	660 nm	
Launchable optical power in single-mode fiber (SM) 9/125		
Launchable optical power in multi-mode fiber (MM) 50/125		
Launchable optical power in multi-mode fiber (MM) 62.5/125		
Launchable optical power in multi-mode fiber (MM) HCS 200/230	-17 dBm (transmitting power default)	
Launchable optical power in multi-mode fiber (MM) POF 980/1000	-10 dBm (transmitting power reduced), -5 dBm (transmitting power default)	
Optical input power	min25 dBm, max3 dBm	
Cascadibility	not limited	
More Interfaces		
Power supply	5-pin terminal block, screw mounting	
Signaling contact	5-pin terminal block, screw mounting	
Measuring outputs "Optical input power"	2 mm sockets	
Network size - length of cable		
Single mode fiber (SM) 9/125 μm		
Multimode fiber (MM) 50/125 µm		
Multimode fiber (MM) 62.5/125 µm		
Multimode fiber HCS (MM) 50/125 μm	400 m	
, , , , , , , , , , , , , , , , , , , ,	8 dB link budget at 660 nm and transmitting power default A = 8 dB/km, 2 dB reserve	
Multimode fiber POF (MM) 980/1000 μm	50 m 15 dB link budget at 660 nm and transmitting power reduced 80 m 20 dB link budget at 660 nm and transmitting power default A= 0.2 dB/m, 2 dB reserve	
Power requirements		
Operating voltage	18 32 VDC, typ. 24 VDC	
Galvanic isolation	yes	
Current consumption	max. 200 mA	
Power consumption	4.8 W	
Output voltage/output current (pin6)	5 VDC +5%, -10%, short circuit-proof/90 mA	
Redundancy	C 120 1070, 1070, onor onour processor mix	
Redundancy functions	HIPER-Ring (ring structure), redundant 24 V infeed	
Displays	The Entraining (ining distriction), reduction 2.1.1 initiation	
LED red/green (system)	monitoring operating voltage and bit rate	
LED red/yellow (CH 1)	monitoring electrical channel	
LED red/yellow (CH 2, CH 3)	monitoring electrical channels	
Ambient conditions	,	
Operating temperature	0 °C to +60 °C	
Storage/transport temperature	-40 °C to +70 °C	
Relative humidity	< 95% (non-condensing)	
Mechanical construction	,	
Dimensions (W x H x D)	40 x 140 x 77.5 mm	
Mounting	DIN rail or mounting plate	
Weight	500 g	
Protection class	IP 40	
Housing material	die-cast zink	
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 6 kV, air discharge: 8 kV	
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)	
EN 61000-4-4 fast transients (burst)	power line 2 kV, data line: 1 kV	
EN 61000-4-7 last transients (burst)	power line 2.5 kV (line/line, line/earth), data line: 1 kV	
EN 61000-4-5 sarge voltage EN 61000-4-6 conducted immunity	10 V (0.15 - 80 MHz)	
EMC emitted immunity	(V.1.0 00 MH 12)	
EN 55022	EN 55022 limit class A	
Approvals		
Issued approvals	FM Class 1, Div. 2; ATEX Zone 2; C-Tick	
Scope of delivery and accessories	Judo ij sin zij nizit zono zij o nok	
Scope of delivery	device, 2 optical BFOC (ST®) plugs, start-up instructions	
Accessories to order separately	manual, order no. 039 629-001	
, , , , , , , , , , , , , , , , , , ,		



interface converter electrical/optical for PROFIBUS-field bus networks; repeater function; for plastic FO; short-haul version; approval for Ex-zone 2 (Class 1, Div. 2)	
2 x optical: 4 sockets BFOC 2.5 (ST $^{\textcircled{0}}$) 1 x electrical: Sub-D 9-pin, female, pin assignment according to EN 50170 part 1	
OZD Profi 12M P12	
943 728-321	
943 /20-321	
PROFIRM	
PROFIBUS	
9.6; 19.2; 45.45; 93.75; 187.5; 500 kbit/s; 1.5; 3; 6; 12 Mbit/s (automatic setting)	
≤ 6.5 bit times	
RS 485 level	
-7 V +12 V	
no	
660 nm	
000 11111	
17 dPm (transmitting narray default)	
-17 dBm (transmitting power default)	
-10 dBm (transmitting power reduced), -5 dBm (transmitting power default)	
min25 dBm, max3 dBm	
not limited	
5-pin terminal block, screw mounting	
5-pin terminal block, screw mounting	
2 mm sockets	
400 m	
8 dB link budget at 660 nm and transmitting power default A = 8 dB/km, 2 dB reserve	
50 m	
15 dB link budget at 660 nm and transmitting power reduced	
80 m	
20 dB link budget at 660 nm and transmitting power default	
A= 0.2 dB/m, 2 dB reserve	
18 32 VDC, typ. 24 VDC	
yes	
max. 200 mA	
4.8 W	
5 VDC +5%, -10%, short circuit-proof/90 mA	
LUDED Bis a friend standard and and AAV info a	
HIPER-Ring (ring structure), redundant 24 V infeed	
monitoring operating voltage and bit rate	
monitoring electrical channel	
monitoring optical channels	
0 °C to +60 °C	
-40 °C to +70 °C	
< 95% (non-condensing)	
40 x 140 x 77.5 mm	
DIN rail or mounting plate	
500 g	
IP 40	
die-cast zink	
contact discharge: 6 kV, air discharge: 8 kV	
10 V/m (80 - 1000 MHz)	
power line 2 kV, data line: 1 kV	
power line 2 kV, data line. 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV	
10 V (0.15 - 80 MHz)	
EN CCOOL III II alaa A	
EN 55022 limit class A	
FM Class 1, Div. 2; ATEX Zone 2; C-Tick	
device, 4 optical BFOC (ST®) plugs, start-up instructions	
manual, order no. 039 629-001	
	1'

Product description

Field Bus



PROFIBUS Fiberoptic Repeaters

Description	interface converter electrical/optical for PROFIBUS-field bus networks;	
	repeater function; for quartz glass FO; approval for Ex-zone 2 (Class 1, Div. 2)	
Port type and quantity	1 x optical: 2 sockets BFOC 2.5 (ST®) 1 x electrical: Sub-D 9-pin, female, pin assignment according to EN 50170 part 1	
	1 x electrical. Sub-b 3-pin, female, pin assignment according to the 30170 part 1	
Туре	OZD Profi 12M G11	
Order No.	943 727-221	
Electrical interface Signal type	PROFIBUS	
Bit rate	9.6; 19.2; 45.45; 93.75; 187.5; 500 kbit/s;	
	1.5; 3; 6; 12 Mbit/s (automatic setting)	
Signal delay time (optional input/output)	≤ 6.5 bit times	
Input/output signal	RS 485 level	
Input voltage range	-7 V +12 V	
Galvanic isolation	no	
Optical interface		
Wavelength	860 nm	
Launchable optical power in single-mode fiber (SM) 9/125 Launchable optical power in multi-mode fiber (MM) 50/125	-15 dBm	
Launchable optical power in multi-mode fiber (MM) 62.5/125	-13 dBm	
Launchable optical power in multi-mode fiber (MM) HCS 200/230	-10 dBm (transmitting power default)	
Launchable optical power in multi-mode fiber (MM) POF 980/1000		
Optical input power	min28 dBm, max3 dBm	
Cascadibility	not limited	
More Interfaces Power supply	5-pin terminal block, screw mounting	
Signaling contact	5-pin terminal block, screw mounting	
Measuring outputs "Optical input power"	2 mm sockets	
Network size - length of cable		
Single mode fiber (SM) 9/125 μm		
Multimode fiber (MM) 50/125 μm	3000 m 13 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve	
Multimode fiber (MM) 62.5/125 μm	3000 m 15 dB link budget at 860 nm; A = 3.5 dB/km, 3 dB reserve	
Multimode fiber HCS (MM) 50/125 μm	1000 m 18 dB link budget at 860 nm; A = 8 dB/km, 3 dB reserve	
Multimode fiber POF (MM) 980/1000 μm		
Power requirements		
Power requirements Operating voltage	18 32 VDC, typ. 24 VDC	
Power requirements Operating voltage Galvanic isolation	yes	
Power requirements Operating voltage Galvanic isolation Current consumption	yes max. 200 mA	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption	yes max. 200 mA 4.8 W	
Power requirements Operating voltage Galvanic isolation Current consumption	yes max. 200 mA	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6)	yes max. 200 mA 4.8 W	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system)	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1)	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system)	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3)	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humidity	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humidity Mechanical construction	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing)	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humidity Mechanical construction Dimensions (W x H x D)	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humidity Mechanical construction	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing)	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humidity Mechanical construction Dimensions (W x H x D) Mounting	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humidity Mechanical construction Dimensions (W x H x D) Mounting Weight Protection class Housing material	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 × 140 × 77.5 mm DIN rail or mounting plate 500 g	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humicity Mechanical construction Dimensions (W x H x D) Mounting Weight Protection class Housing material EMC interference immunity	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humidity Mechanical construction Dimensions (W x H x D) Mounting Weight Protection class Housing material EMC interference immunity EN 61000-4-2 electrostatic discharge (ESD)	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humidity Mechanical construction Dimensions (W x H x D) Mounting Weight Protection class Housing material EMC interference immunity EN 61000-4-2 electrostatic discharge (ESD) EN 61000-4-3 electromagnetic field	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz)	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humidity Mechanical construction Dimensions (W x H x D) Mounting Weight Protection class Housing material EMC interference immunity EN 61000-4-2 electrostatic discharge (ESD)	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humidity Mechanical construction Dimensions (W x H x D) Mounting Weight Protection class Housing material EMC interference immunity EM 61000-4-2 electrostatic discharge (ESD) EN 61000-4-3 electromagnetic field EN 61000-4-4 fast transients (burst)	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/green (system) LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humidity Mechanical construction Dimensions (W x H x D) Mounting Weight Protection class Housing material EMC interference immunity EN 61000-4-2 electrostatic discharge (ESD) EN 61000-4-5 surge voltage EN 61000-4-5 surge voltage EN 61000-4-6 conducted immunity EMC emitted immunity EMC emitted immunity EMC emitted immunity EMC emitted immunity	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 0.5 kV (line/line, line/earth), data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV	
Power requirements Operating voltage Galvanic isolation Current consumption Power consumption Output voltage/output current (pin6) Redundancy Redundancy functions Displays LED red/yellow (CH 1) LED red/yellow (CH 2, CH 3) Ambient conditions Operating temperature Storage/transport temperature Relative humidity Mechanical construction Dimensions (W x H x D) Mounting Weight Protection class Housing material EMC interference immunity EN 61000-4-2 electrostatic discharge (ESD) EN 61000-4-5 surge voltage EN 61000-4-6 conducted immunity EMC emitted immunity	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV	
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interface converter electrical/optical for PROFIBUS-field bus networks; repeater function; for quartz glass FO; approval for Ex-zone 2 (Class 1, Div. 2)	interface converter electrical/optical for PROFIBUS-field bus networks; repeater function; for quartz glass FO; approval for Ex-zone 2 (Class 1, Div. 2); extended temperature and humidity range
2 x optical: 4 sockets BFOC 2.5 (ST®) 1 x electrical: Sub-D 9-pin, female, pin assignment according to EN 50170 part 1	2 x optical: 4 sockets BFOC 2.5 (ST®) 1 x electrical: Sub-D 9-pin, female, pin assignment according to EN 50170 part 1
OZD Profi 12M G12	OZD Profi 12M G12 EEC
943 727-321	943 730-321
943 121-321	943 730-321
PROFIBUS	PROFIBUS
9.6; 19.2; 45.45; 93.75; 187.5; 500 kbit/s; 1.5; 3; 6; 12 Mbit/s (automatic setting)	9.6; 19.2; 45.45; 93.75; 187.5; 500 kbit/s; 1.5; 3; 6; 12 Mbit/s (automatic setting)
≤ 6.5 bit times	≤ 6.5 bit times
RS 485 level	RS 485 level
-7 V +12 V	-7 V +12 V
no	no
860 nm	860 nm
-15 dBm	-15 dBm
-13 dBm	-13 dBm
-10 dBm (transmitting power default)	-10 dBm (transmitting power default)
, , , , , , , , , , , , , , , , , ,	, ,
min28 dBm, max3 dBm	min28 dBm, max3 dBm
not limited	not limited
5-pin terminal block, screw mounting	5-pin terminal block, screw mounting
5-pin terminal block, screw mounting	5-pin terminal block, screw mounting
2 mm sockets	2 mm sockets
3000 m 13 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve	3000 m 13 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve
3000 m 15 dB link budget at 860 nm; A = 3.5 dB/km, 3 dB reserve	3000 m 15 dB link budget at 860 nm; A = 3.5 dB/km, 3 dB reserve
1000 m 18 dB link budget at 860 nm; A = 8 dB/km, 3 dB reserve	1000 m 18 dB link budget at 860 nm; A = 8 dB/km, 3 dB reserve
18 32 VDC, typ. 24 VDC	18 32 VDC, typ. 24 VDC
yes	yes
yes max. 200 mA	yes max. 200 mA
yes max. 200 mA 4.8 W	yes max. 200 mA 4.8 W
yes max. 200 mA	yes max. 200 mA
yes max. 200 mA 4.8 W	yes max. 200 mA 4.8 W
yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed
yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate
yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel
yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate
yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels
yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels -20 °C to +60 °C
yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels -20 °C to +60 °C -40 °C to +70 °C
yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C	yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels -20 °C to +60 °C
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Field Bus



PROFIBUS Fiberoptic Repeaters

Product description	interface converter electrical/antical for DDOCIDUO field to converte the converte to the conv	
Description	interface converter electrical/optical for PROFIBUS-field bus networks; repeater function; for quartz glass FO; long-haul version; approval for Ex-zone 2 (Class 1, Div. 2)	
Port type and quantity	1 x optical: 2 sockets BFOC 2.5 (ST [®]) 1 x electrical: Sub-D 9-pin, female, pin assignment according to EN 50170 part 1	
Туре	OZD Profi 12M G11-1300	
Order No.	943 729-221	
Electrical interface		
Signal type	PROFIBUS	
Bit rate	9.6; 19.2; 45.45; 93.75; 187.5; 500 kbit/s; 1.5; 3; 6; 12 Mbit/s (automatic setting)	
Signal delay time (optional input/output)	≤ 6.5 bit times	
Input/output signal	RS 485 level	
Input voltage range	-7 V +12 V	
Galvanic isolation	no	
Optical interface	1310 nm	
Wavelength Launchable optical power in single-mode fiber (SM) 9/125	-19 dBm	
Launchable optical power in single-mode liber (SM) 50/125	-17 dBm	
Launchable optical power in multi-mode fiber (MM) 62.5/125	-17 dBm	
Launchable optical power in multi-mode fiber (MM) HCS 200/230	-17 dBill	
Launchable optical power in multi-mode fiber (MM) POF 980/1000		
Optical input power	min29 dBm, max3 dBm	
Cascadibility	not limited	
More Interfaces	THE INTROG	
Power supply	5-pin terminal block, screw mounting	
Signaling contact	5-pin terminal block, screw mounting	
Measuring outputs "Optical input"	2 mm sockets	
Network size - length of cable		
Single mode fiber (SM) 9/125 μm	15000 m 10 dB link budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve	
Multimode fiber (MM) 50/125 μm	10000 m 12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve	
Multimode fiber (MM) 62.5/125 μm	10000 m 12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve	
Multimode fiber HCS (MM) 200/230 μm		
Multimode fiber POF (MM) 980/1000 μm		
Power requirements		
Operating voltage	18 32 VDC, typ. 24 VDC	
Galvanic isolation	yes	
Current consumption	max. 200 mA	
Power consumption	4.8 W	
Output voltage/output current (pin6)	5 VDC +5%, -10%, short circuit-proof/90 mA	
Redundancy Redundancy functions	LIDED Ding (ring structure), redundant 24 V infood	
Displays	HIPER-Ring (ring structure), redundant 24 V infeed	
LED red/green (system)	monitoring operating voltage and bit rate	
LED red/yellow (CH 1)	monitoring electrical channel	
LED red/yellow (CH 2, CH 3)	monitoring optical channels	
Ambient conditions		
Operating temperature	0 °C to +60 °C	
Storage/transport temperature	-40 °C to +70 °C	
Relative humidity	< 95% (non-condensing)	
Mechanical construction		
Dimensions (W x H x D)	40 x 140 x 77.5 mm	
Mounting	DIN rail or mounting plate	
Weight	500 g	
Protection class	IP 40	
Housing material	die-cast zink	
EMC interference immunity	and at discharge Old sindischarge Old	
EN 61000-4-2 electrostatic discharge (ESD) EN 61000-4-3 electromagnetic field	contact discharge: 6 kV, air discharge: 8 kV	
EN 61000-4-3 electromagnetic field EN 61000-4-4 fast transients (burst)	10 V/m (80 - 1000 MHz)	
EN 61000-4-4 fast transients (burst) EN 61000-4-5 surge voltage	power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV	
EN 61000-4-5 surge voltage EN 61000-4-6 conducted immunity	10 V (0.15 - 80 MHz)	
EMC emitted immunity	15 · (5.76 00 mm/L)	
EN 55022	EN 55022 limit class A	
Approvals		
Issued approvals	FM Class 1, Div. 2; ATEX Zone 2; C-Tick	
Scope of delivery and accessories		
Scope of delivery	device, start-up instructions	
Accessories to order separately	manual, order no. 039 629-001	





10 dB link budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve	10 dB link budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve
10000 m 12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve	10000 m 12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve
 10000 m	10000 m
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed
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12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels -20 °C to +60 °C -40 °C to +70 °C
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12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels -20 °C to +60 °C -40 °C to +70 °C 100% (condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz)	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels -20 °C to +60 °C -40 °C to +70 °C 100% (condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz)
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels -20 °C to +60 °C -40 °C to +70 °C 100% (condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz)	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels -20 °C to +60 °C -40 °C to +70 °C 100% (condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2 kV, (data line: 1 kV	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels -20 °C to +60 °C -40 °C to +70 °C 100% (condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2 kV, data line: 1 kV
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels -20 °C to +60 °C -40 °C to +70 °C 100% (condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV
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12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2 kV, (data line: 1 kV	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels -20 °C to +60 °C -40 °C to +70 °C 100% (condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2 kV, data line: 1 kV
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels -20 °C to +60 °C -40 °C to +70 °C 100% (condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring electrical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz)	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels -20 °C to +60 °C -40 °C to +70 °C 100% (condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz)
12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels 0 °C to +60 °C -40 °C to +70 °C < 95% (non-condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A	12 dB link budget at 1310 nm; A = 1 dB/km, 2 dB reserve 18 32 VDC, typ. 24 VDC yes max. 200 mA 4.8 W 5 VDC +5%, -10%, short circuit-proof/90 mA HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and bit rate monitoring operating voltage and bit rate monitoring optical channel monitoring optical channels -20 °C to +60 °C -40 °C to +70 °C 100% (condensing) 40 x 140 x 77.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 6 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A

Field Bus



Modbus Plus Fiberoptic Repeaters

Product description		
Description	interface converter electrical/optical for Modbus Plus-field bus networks; repeater	
2000, p. 101	function; for quartz glass und PCF (HCS) FO; approval for Ex-zone 2 (Class 1, Div. 2)	
Port type and quantity	2 x optical: 4 sockets BFOC 2.5 (ST $^{\oplus}$) 1 x electrical: Sub-D 9-pin, female, pin assignment according to Modbus Plus-Standard	
Туре	OZD Modbus Plus G12	
Order No.	943 740-021	
Electrical interface	040 140 021	
Signal type	Modbus Plus	
Bit rate	1 Mbit/s	
Signal delay time (optional input/output)	<1 μs	
Input/output signal	Modbus Plus Bus	
Length of Modbus cable	100 m	
Connection capability	max. 31 terminal devices	
Terminator	external	
Galvanic isolation	shielding/housing: no; data lines/housing: yes	
Optical interface		
Wavelength	860 nm	
Launchable optical power in single-mode fiber (SM) 9/125		
Launchable optical power in multi-mode fiber (MM) 50/125	-15 dBm	
Launchable optical power in multi-mode fiber (MM) 62.5/125	-14 dBm	
Launchable optical power in multi-mode fiber (MM) HCS 200/230	-10 dBm	
Optical input power	min25 dBm, max3 dBm	
Cascadibility	not limited	
More Interfaces		
Power supply	5-pin terminal block, screw mounting	
Signaling contact	5-pin terminal block, screw mounting	
Network size - length of cable		
Single mode fiber (SM) 9/125 µm		
Multimode fiber (MM) 50/125 μm	2300 m 10 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve	
Multimode fiber (MM) 62.5/125 μm	2300 m 11 dB link budget at 860 nm; A = 3.5 dB/km, 3 dB reserve	
Multimode fiber HCS (MM) 50/125 μm	1500 m 16 dB link budget at 860 nm; A = 8 dB/km, 3 dB reserve	
Power requirements		
Operating voltage	24 VDC -20% 48 VDC +10% non-interchangeable, safety extra-low voltage	
Current consumption	120 mA at +24 VDC; 65 mA at + 48 VDC	
Power consumption	3.1 W	
Redundancy		
Redundancy functions	HIPER-Ring (ring structure), redundant 24 V infeed	
Displays	The Err Thing (ining Structure), redundant 24 viniosa	
LED red/green (system)	monitoring operating voltage and data traffic	
LED green/orange (Port 1)	differentiated monitoring electrical channel	
LED green/orange (Port 1) LED green/orange (Port 2,3)	differentiated monitoring electrical channels	
Ambient conditions	unierentiated monitoring optical chamies	
	0 °C to +60 °C	
Operating temperature	-40 °C to +70 °C	
Storage/transport temperature		
Relative humidity	< 95% (non-condensing)	
Mechanical construction	40 v 111 v 70 F mm	
Dimensions (W x H x D)	40 x 111 x 73.5 mm	
Mounting	DIN rail or mounting plate	
Weight	620 g	
Protection class	IP 40	
Housing material	die-cast zink	
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV	
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)	
EN 61000-4-4 fast transients (burst)	power line 2 kV, data line: 1 kV	
EN 61000-4-5 surge voltage	power line 0.5 kV (line/line, line/earth), data line: 1 kV	
EN 61000-4-6 conducted immunity	10 V (0.15 - 80 MHz)	
EMC emitted immunity		
EN 55022	EN 55022 limit class A	
Approvals		
Issued approvals	cUL Class 1, Div.2; C-Tick	
Scope of delivery and accessories		
Scope of delivery	device, start-up instructions	
Accessories to order separately	manual, order no. 933 989-901	



interface converter electrical/optical for Modbus Plus-field bus networks; repeater function; for quartz glass FO; long-haul version
2 x optical: 4 sockets BFOC 2.5 (ST [®]) 1 x electrical: Sub-D 9-pin, female, pin assignment according to Modbus Plus-Standard
OZD Modbus Plus G12-1300
943 821-021
Modbus Plus
1 Mbit/s
< 1 µs
Modbus Plus Bus
100 m
max. 31 terminal devices
external
shielding/housing: no; data lines/housing: yes
1310 nm
-19 dBm -17 dBm
-17 dBm
-17 doi:
min27 dBm, max3 dBm
not limited
5-pin terminal block, screw mounting
5-pin terminal block, screw mounting
8000 m 8 dB link budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve
7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve
7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve
24 VDC -20% 48 VDC +10% non-interchangeable, safety extra-low voltage
120 mA at +24 VDC; 65 mA at + 48 VDC
3.1 W
HIPER-Ring (ring structure), redundant 24 V infeed
monitoring operating voltage and data traffic
differentiated monitoring electrical channel
differentiated monitoring optical channels
0 °C to +60 °C
-40 °C to +70 °C
< 95% (non-condensing)
40 x 111 x 73.5 mm
DIN rail or mounting plate
620 g
IP 40
die-cast zink
contact discharge: 4 kV, air discharge: 8 kV
10 V/m (80 - 1000 MHz)
power line 2 kV, data line: 1 kV
power line 0.5 kV (line/line, line/earth), data line: 1 kV
10 V (0.15 - 80 MHz)
EN 55022 limit class A
C.Tali
C-Tick
device, start-up instructions
manual, order no. 933 989-901
11041040, V1001 110. 000 000 001

Field Bus



Genius Bus Fiberoptic Repeaters

	(La)
Product description	
Description	interface converter electrical/optical for Genius field bus networks; repeater function;
·	for quartz glass und PCF (HCS) FO; approval for Ex-zone 2 (Class 1, Div. 2)
Port type and quantity	2 x optical: 4 sockets BFOC 2.5 (ST®)
	1 x electrical: 4-pin connector with self-locking mechanism
Туре	OZD Genius G12
Order No.	933 989-021
Electrical interface	300 303-021
Signal type	Geniusbus
Bit rate	38.4; 76.8; 153.6 kbit/s
***	800 ns
Signal delay time (optional input/output) Input/output signal	
Genius cable	Geniusbus length: > 250 m
Gerilus Cable	attenuation at 1 MHz:
	< 8 dB for 150 Ohm cable
	< 5 dB for 100 Ohm cable
Connection capability	max. 32 terminal devices
Terminator	external
Galvanic isolation	shielding in/shielding out: yes; data lines/housing: yes
Optical interface	
Wavelength	860 nm
Launchable optical power in single-mode fiber (SM) 9/125	
Launchable optical power in multi-mode fiber (MM) 50/125	-15 dBm
Launchable optical power in multi-mode fiber (MM) 62.5/125	-14 dBm
Launchable optical power in multi-mode fiber (MM) HCS 200/230	-10 dBm
Optical input power	min26 dBm, max9 dBm
Cascadibility	not limited
More Interfaces	
Power supply	5-pin terminal block, screw mounting
Signaling contact	5-pin terminal block, screw mounting
Network size - length of cable	
Single mode fiber (SM) 9/125 µm	
Multimode fiber (MM) 50/125 μm	2700 m
Макиново нов (нин) со 120 дин	11 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve
Multimode fiber (MM) 62.5/125 μm	2600 m
	12 dB link budget at 860 nm; A = 3.5 dB/km, 3 dB reserve
Multimode fiber HCS (MM) 50/125 μm	1500 m
, , , , , , , , , , , , , , , , , , , ,	16 dB link budget at 860 nm; A = 8 dB/km, 3 dB reserve
Power requirements	041/00/40 051/00/
Operating voltage	24 VDC (19 35 VDC), non-interchangeable, safety extra-low voltage 130 mA
Current consumption	
Power consumption	3.1 W
Redundancy Redundancy functions	HIPER-Ring (ring structure), redundant 24 V infeed
	HIFEN-HING (INING STRUCTURE), Tedundant 24 V IIIIleed
Displays	monitoring operating voltage and data traffic
LED red/green (system)	monitoring operating voltage and data traffic
LED green/orange (Port 1)	differentiated monitoring electrical channel
LED green/orange (Port 2,3)	differentiated monitoring optical channels
Ambient conditions	0.0045 .55.00
Operating temperature	0 °C to +55 °C
Storage/transport temperature	-40 °C to +80 °C
Relative humidity	< 95% (non-condensing)
Mechanical construction	10 111 70 5
Dimensions (W x H x D)	40 x 111 x 73.5 mm
Mounting	DIN rail or mounting plate
Weight	500 g
Protection class	IP 40
Housing material	die-cast zink
EMC interference immunity EN 61000-4-2 electrostatic discharge (ESD)	contest discharge A IAV six discharge Q IAV LICEA/CD; A IAV
<u> </u>	contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV
EN 61000-4-3 electromagnetic field EN 61000-4-4 fast transients (burst)	10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV
EN 61000-4-4 fast transients (burst) EN 61000-4-5 surge voltage	power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV
EN 61000-4-5 surge voltage EN 61000-4-6 conducted immunity	10 V (0.15 - 80 MHz)
EMC emitted immunity	10 V (0.10 - 00 IVII IZ)
EN 55022	EN 55022 limit class A
Approvals	ETT GOOLE minit Glass A
Issued approvals	cUL Class 1, Div.2; C-Tick
Scope of delivery and accessories	
Scope of delivery	device, start-up instructions
Accessories to order separately	manual, order no. 933 989-901



Interface converse et electrolizational for Genus land box reforence, respected function; for cardinal sea (Co. Approved for Course of Closes 1), No. Long-hand version 2 x opticals is excised IPCC 25 (87°) 7 x electrical characteristics and sea (197-190) 80 x electrical characteristics and sea		
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Gentiadus S. Will 150 Method. Gentiadus C. Will 150 Method. Gentiadus C. Considera C. Consider	1 x electrical: 4-pin connector with self-locking mechanism	
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384 - 7 (8 - 15 d d birbs) Genrisdous Genrisdous Genrisdous Genrisdous Genrisdous Genrisdous Genrisdous Fig. 1 (4 to 2) Fig. 2 d d d for 150 Ohm cable Fig. 2 d d for 150 Ohm cable Fig. 3 d d for 150 Ohm cable Fig. 3 d d for 150 Ohm cable Fig. 3 d d for 150 Ohm cable Fig. 4 d for 150 Ohm Fig. 5 d for 150 Ohm Fig. 5 d for 150 Ohm Fig. 6 d for 150 Ohm Fig. 6 d for 150 Ohm Fig. 7 d f		
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length > 250 m		
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 S dd for 100 Ohm cable max 25 Earninal devices external shielding inshielding out: yes; data lines/housing: yes 1310 mm -19 differ -17 differ -19 mm. 22 dish, max -10 differ not limited -5-pin terminal block, sorew mounting -700 mm 1000 limit hudget at 1310 mm, A = 0.5 differn, 2 diff reserve 700 mm 10 diff limit hudget at 1310 mm, A = 1 differn, 3 diff reserve 100 mm -10 diff limit hudget at 1310 mm, A = 1 differn, 3 diff reserve -10 mm -10 mm -10 differnit hudget at 1310 mm, A = 1 differn, 3 diff reserve -10 mm -10 differnit hudget at 1310 mm, A = 1 differn, 3 diff reserve -10 mm -10 mm -10 differnit hudget at 1310 mm, A = 1 differnit		
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1310 mm 1-19 dBm 1-17		
1-19 dBm 1-17 dBm 1-18 dBm, max10 dBm 1-19 dBm, max10 dBm, ma	onloaning involved good, yee, data internocuring. Yee	
- 17 dBm - 18 dBm, max 10 dBm - 18 min 27 dBm, max 10 dBm - 18 dBm, budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve - 18 dBm, budget at 1310 nm; A = 1 dB/km, 3 dB reserve - 19 dBm, budget at 1310 nm; A = 1 dB/km, 3 dB reserve - 19 dBm, budget at 1310 nm; A = 1 dB/km, 3 dB reserve - 19 dBm, budget at 1310 nm; A = 1 dB/km, 3 dB reserve - 24 VDC (19 35 VDC), non-interchangeable, safety extra-low voltage - 130 mA - 3.1 W - HPER-Ring (ring structure), redundant 24 V inteed - monitoring operating voltage and data traffic - differentiated monitoring gleatical channels - differentiated monitoring global channels - differentiated monitoring global channels - 40 °C to 45 °C - 40 °C to 40 °	1310 nm	
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not limited 5-pin terminal block, screw mounting 5-pin terminal block, screw mounting 10000 m 8 dB link budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 24 VDC (19 35 VDC); non-interchangeable, safety extra-low voltage 130 mA 3.1 W HIPER-Ring (ping structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring electrical channel differentiated monitoring optical channels 0 "C to +55 "C -40" C to +80" C 4 95% (non-condensing) 4 0 111 x 7.2.5 mm DIN rail or mounting plate 500 g JP +0 Jill rail or mounting plate 500 g Jill rail rail rail rail rail rail rail r	-1/ dBm	
not limited 5-pin terminal block, screw mounting 5-pin terminal block, screw mounting 10000 m 8 dB link budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 24 VDC (19 35 VDC); non-interchangeable, safety extra-low voltage 130 mA 3.1 W HIPER-Ring (ping structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring electrical channel differentiated monitoring optical channels 0 "C to +55 "C -40" C to +80" C 4 95% (non-condensing) 4 0 111 x 7.2.5 mm DIN rail or mounting plate 500 g JP +0 Jill rail or mounting plate 500 g Jill rail rail rail rail rail rail rail r	min -27 dRm may -10 dRm	
S-pin terminal block, screw mounting 5-pin terminal block, screw mounting 10000 m 8 dB link budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 24 VDC (19 35 VDC), non-interchangeable, safety extra-low voltage 130 mA 3.1 W HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring electrical channel differentiated monitoring optical channels 0 °C to 455 °C 4-0 °C to 480 °C 4-0 °S (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate S00 g IP 40 die-cast Zink contact discharge: 4 kV, air discharge; 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2 kV, data line: 1 kV power line 0 S kV (line/line, line/earth), data line: 1 kV IO V/m (80 - 1000 MHz) EN S5022 limit class A CUL Class 1, Div2; C-Tick device, start-up instructions		
5-jin terminal block, screw mounting 10000 m 10 dB link budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 24 VDC (19 35 VDC), non-interchangeable, safety extra-low voltage 130 mA 3.1 W HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring electrical channel differentiated monitoring operating voltage and data traffic differentiat		
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8 dB link budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 24 VDC (19 35 VDC), non-interchangeable, safety extra-low voltage 130 mA 3.1 W HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical charnel differentiated monitoring optical charnels 0 °C to +55 °C -40 °C to +80 °C < 95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 50 0 g IP 40 die-cast zink contact discharge: 4 kV, ard discharge: 8 kV, HCP/VCP; 4 kV 10 Vm Re - 1000 kH2 power line 0.5 kV (line line; 1 kV) power line 0.5 kV (line line; 1 kV) EN S0022 limit class A cult. Class 1, Dw.2; C-Tick device, start-up instructions	5-pin terminal block, screw mounting	
8 dB link budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 24 VDC (19 35 VDC), non-interchangeable, safety extra-low voltage 130 mA 3.1 W HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical charnel differentiated monitoring optical charnels 0 °C to +55 °C -40 °C to +80 °C < 95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 50 0 g IP 40 die-cast zink contact discharge: 4 kV, ard discharge: 8 kV, HCP/VCP; 4 kV 10 Vm Re - 1000 kH2 power line 0.5 kV (line line; 1 kV) power line 0.5 kV (line line; 1 kV) EN S0022 limit class A cult. Class 1, Dw.2; C-Tick device, start-up instructions	40000	
10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 7000 m 10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 24 VDC (19 35 VDC), non-interchangeable, safety extra-low voltage 130 mA 3.1 W HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring optical channel differentiated monitoring optical channels 0 °C to +55 °C 4-40 °C to +80 °C < +95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 50 0 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP; 4 kV 10 Vm (80 - 1000 MHz) power line 2 kV, data line: 1 kV EN 55022 limit class A cUL Class 1, Div. 2; C-Tick device, start-up instructions		
10 dB link budget at 1310 nm; A = 1 dB/km, 3 dB reserve 24 VDC (19 35 VDC), non-interchangeable, safety extra-low voltage 130 mA 3.1 W HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring optical channels 0 °C to +55 °C -40 °C to +80 °C < 49% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2 kV, data line: 1 kV power line 2 kV, data line: 1 kV 10 V/m (80 - 1000 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
24 VDC (19 35 VDC), non-interchangeable, safety extra-low voltage 130 mA 3.1 W HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring optical channels 0 °C to +55 °C -40 °C to +80 °C <95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2 kV, data line: 1 kV power line 0.5 kV (line-line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
130 mA 3.1 W HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring optical channels 0 °C to +55 °C -40 °C to +55 °C -40 °C to +80 °C < 95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 5 kV (line/line, line/earth), data line: 1 kV cut Class 1, Div.2; C-Tick device, start-up instructions		
130 mA 3.1 W HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring optical channels 0 °C to +55 °C -40 °C to +55 °C -40 °C to +80 °C < 95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 5 kV (line/line, line/earth), data line: 1 kV cut Class 1, Div.2; C-Tick device, start-up instructions		
130 mA 3.1 W HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring optical channels 0 °C to +55 °C -40 °C to +80 °C < 98% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 110 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2 kV, data line: 1 kV power line 2 kV, data line: 1 kV cut Class 1, Div.2; C-Tick device, start-up instructions		
130 mA 3.1 W HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring optical channels 0 °C to +55 °C -40 °C to +80 °C < 98% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 110 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2 kV, data line: 1 kV power line 2 kV, data line: 1 kV cut Class 1, Div.2; C-Tick device, start-up instructions	24 VDC (10 25 VDC) non interchangeable potent extra law voltage	
3.1 W HIPER-Ring (ring structure), redundant 24 V infeed monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring optical channels 0 °C to +55 °C -40 °C to +80 °C < 95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cul L Class 1, Div.2; C-Tick device, start-up instructions		
monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring optical channels 0 °C to +55 °C -40 °C to +80 °C <95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
monitoring operating voltage and data traffic differentiated monitoring electrical channel differentiated monitoring optical channels 0 °C to +55 °C -40 °C to +80 °C <95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
differentiated monitoring electrical channels 0 °C to +55 °C -40 °C to +56 °C -40 °C to +80 °C < 95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cull. Class 1, Div.2; C-Tick device, start-up instructions	HIPER-Ring (ring structure), redundant 24 V infeed	
differentiated monitoring electrical channels 0 °C to +55 °C -40 °C to +56 °C -40 °C to +80 °C < 95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cull. Class 1, Div.2; C-Tick device, start-up instructions		
differentiated monitoring optical channels 0 °C to +55 °C -40 °C to +80 °C < 95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2 kV (ine/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
0 °C to +55 °C -40 °C to +80 °C < 95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick		
-40 °C to +80 °C < 95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2 kV, data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cul. Class 1, Div.2; C-Tick device, start-up instructions	and a mornioning option originates	
< 95% (non-condensing) 40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 2 kV, data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions	0 °C to +55 °C	
40 x 111 x 73.5 mm DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions	< 95% (non-condensing)	
DIN rail or mounting plate 500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions	40 v 111 v 72 5 mm	
500 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
die-cast zink contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV 10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
10 V/m (80 - 1000 MHz) power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
power line 0.5 kV (line/line, line/earth), data line: 1 kV 10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
10 V (0.15 - 80 MHz) EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
EN 55022 limit class A cUL Class 1, Div.2; C-Tick device, start-up instructions		
cUL Class 1, Div.2; C-Tick device, start-up instructions	, ,	
device, start-up instructions	EN 55022 limit class A	
device, start-up instructions		
	cUL Class 1, Div.2; C-Tick	
	device start us instructions	
manual, order no. 000 000-001		
	manda, order 110. 000 000-001	

Field Bus



FIP Bus Fiberoptic Repeaters

	III .	
Product description		
Description	interface converter electrical/optical for FIP-field bus networks; repeater function; for quartz glass und PCF (HCS) FO	
Port type and quantity	2 x optical: 4 sockets BFOC 2.5 (ST®) 1 x electrical: Sub-D 9-pin, male, pin assignment acc. to French Standard NF-C 46-604	
Туре	OZD FIP G3	
Order No.	933 847-421	
Electrical interface		
Signal type	World FIP	
Bit rate	1 Mbit/s	
Signal delay time (optional input/output)	< 1 µs	
Input/output signal	FIP Bus	
Length of FIP cable	100 m	
Connection capability	max. 16 terminal data devices	
Terminator	no no	
Galvanic isolation	shielding/housing: no; data lines/housing: yes	
Optical interface	860 nm	
Wavelength Launchable optical power in multi-mode fiber (MM) 50/125	-15 dBm	
Launchable optical power in multi-mode fiber (MM) 62.5/125	-14 dBm	
Launchable optical power in multi-mode fiber (MM) HCS 200/230	-10 dBm	
Optical input power	min26 dBm, max9 dBm	
Cascadibility	40	
Contains,	at a maximal line attenuation of the optical network with fiber G 50/125: 0 60 dB with fiber G 62,5/125: 0 75 dB with fiber S 200/230: 0 60 dB	
More Interfaces		
Power supply Signaling contact	5-pin terminal block, screw mounting	
Network size - length of cable	5-pin terminal block, screw mounting	
Multimode fiber (MM) 50/125 µm	2500 m	
Multimode liber (MM) 30/123 μm	11 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve	
Multimode fiber (MM) 62.5/125 μm	2500 m 12 dB link budget at 860 nm; A = 3.5 dB/km, 3 dB reserve	
Multimode fiber HCS (MM) 50/125 μm	1500 m 16 dB link budget at 860 nm; A = 8 dB/km, 3 dB reserve	
Power requirements		
Operating voltage	24 VDC -20% 48 VDC +10% non-interchangeable, safety extra-low voltage	
Current consumption	150 mA at +24 VDC; 85 mA at + 48 VDC	
Power consumption	4.1 W	
Redundancy		
Redundancy functions	HIPER-Ring (ring structure), redundant 24 V infeed	
Displays (September 1997)	and the land of th	
LED red/green (system) LED green/orange (Port 1)	monitoring operating voltage and data traffic	
LED green/orange (Port 1) LED green/orange (Port 2,3)	differentiated monitoring electrical channel differentiated monitoring optical channels	
Ambient conditions	unoromateu monitoring optical chainteis	
Operating temperature	0 °C to +60 °C	
Storage/transport temperature	-40 °C to +70 °C	
Relative humidity	< 95% (non-condensing)	
Mechanical construction		
Dimensions (W x H x D)	40 x 111 x 73.5 mm	
Mounting	DIN rail or mounting plate	
Weight	500 g	
Protection class	IP 40	
Housing material	die-cast zink	
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV	
EN 61000-4-3 electromagnetic field EN 61000-4-4 fast transients (burst)	10 V/m (80 - 1000 MHz)	
EN 61000-4-4 fast transients (burst) EN 61000-4-5 surge voltage	power line 2 kV, data line: 1 kV power line 0.5 kV (line/line, line/earth), data line: 1 kV	
EN 61000-4-5 surge voltage EN 61000-4-6 conducted immunity	10 V (0.15 - 80 MHz)	
EMC emitted immunity	10 v (0.10 - 00 IVII IZ)	
EN 55022	EN 55022 limit class A	
Approvals		
Issued approvals	C-Tick	
Scope of delivery and accessories		
Scope of delivery	device, start-up instructions	
Accessories to order separately	manual, order no. 933 847-901	



interface converter electrical/optical for FIP-field bus networks; repeater function; for quartz glass und PCF (HCS) FO; integrated bus termination	
2 x optical: 4 sockets BFOC 2.5 (ST®) 1 x electrical: Sub-D 9-pin, male, pin assignment acc. to French Standard NF-C 46-604	
OZD FIP G3 T	
933 847-521	
World FIP	
1 Mbit/s < 1 µs	
FIP Bus	
100 m	
max. 16 terminal data devices	
yes, 150 Ohm shielding/housing: no; data lines/housing: yes	
onotaling. To call most roughly to	
860 nm	
-15 dBm -14 dBm	
-14 dBm	
min26 dBm, max9 dBm	
40 at a maximal line attenuation of the optical network with fiber G 50/125: 0 60 dB with fiber G 62,5/125: 0 75 dB with fiber S 200/230: 0 60 dB	
5-pin terminal block, screw mounting 5-pin terminal block, screw mounting	
5-pin terminal block, screw mounting	
2500 m 11 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve	
2500 m 12 dB link budget at 860 nm; A = 3.5 dB/km, 3 dB reserve	
1500 m 16 dB link budget at 860 nm; A = 8 dB/km, 3 dB reserve	
24 VDC -20% 48 VDC +10% non-interchangeable, safety extra-low voltage	
150 mA at +24 VDC; 85 mA at + 48 VDC	
4.1 W	
LUDED DI COLLA DE LA CANCIO	
HIPER-Ring (ring structure), redundant 24 V infeed	
monitoring operating voltage and data traffic	
differentiated monitoring electrical channel	
differentiated monitoring optical channels	
0 °C to +60 °C	
-40 °C to +70 °C	
< 95% (non-condensing)	
1014170.5	
40 x 111 x 73.5 mm DIN rail or mounting plate	
500 g	
IP 40	
die-cast zink	
contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV	
10 V/m (80 - 1000 MHz)	
power line 2 kV, data line: 1 kV	
power line 0.5 kV (line/line, line/earth), data line: 1 kV	
10 V (0.15 - 80 MHz)	
EN 55022 limit class A	
C-Tick	
U-HUN	
device, start-up instructions	
manual, order no. 933 847-901	

Field Bus



Universal RS 485 Fiberoptic Repeaters

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Product description		
Description	interface converter electrical/optical for RS 485 field bus networks; repeater function; for quartz glass FO; electrical full duplex or semi-duplex mode	
Port type and quantity	1 x optical: BFOC 2.5 (ST [®]) socket 1 x electrical: Sub-D 9-pin, female or 9-pin terminal block	
Туре	OZD 485 G2 BFOC	
Order No.	943 290-021	
Electrical interface	040 200 021	
Signal type	RS 485 (Modbus,)	
Input resistance	10 kOhm	
Input voltage range	-7 V +12 V	
Jitter	max. 35 ns _{pp}	
Distortion of bit duration	max. 20 ns _{pp}	
Bit rate	max. 2 Mbit/s	
Optical interface	THE E THE SE	
Wavelength	860 nm	
Launchable optical power in single-mode fiber (SM) 9/125	000 11111	
Launchable optical power in multi-mode fiber (MM) 50/125	-18 dBm	
Launchable optical power in multi-mode fiber (MM) 62.5/125	-14 dBm	
Launchable optical power in multi-mode fiber (MM) HCS 200/230	11 (5)	
Launchable optical power in multi-mode fiber (MM) POF 980/1000		
Optical input power	-27 dBm	
More Interfaces		
Power supply	9-pin Sub-D connector, female or 9-pin terminal block	
Signaling contact	- First Control of the Control of th	
Voltage output		
Network size - length of cable		
Single mode fiber (SM) 9/125 μm		
Multimode fiber (MM) 50/125 μm	2000 m 9 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve	
Multimode fiber (MM) 62.5/125 μm	2800 m 13 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve	
System delay time	1.5 us	
Power requirements		
Operating voltage	5 VDC ±5% or 18 32 VDC	
Current consumption	max. 500 mA at 5 VDC, max. 300 mA at 18 32 VDC	
Power consumption	3 W	
Redundancy		
Redundancy functions	hot standby link	
Displays		
LEDs	signalling of operating status; transmitting data; receiving data	
Ambient conditions		
Operating temperature	0 °C to +50 °C	
Storage/transport temperature	-20 °C to +70 °C	
Relative humidity	< 95% (non-condensing)	
Mechanical construction		
Dimensions (W x H x D)	40 x 117.5 x 92 mm	
Mounting	DIN rail or mounting plate	
Weight	400 g	
Protection class	IP 40	
Housing material	die-cast zink	
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV	
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)	
EN 61000-4-4 fast transients (burst)	power line 2 kV, data line: 1 kV	
EN 61000-4-5 surge voltage	power line 0.5 kV (line/line, line/earth), data line: 1 kV	
EN 61000-4-6 conducted immunity	10 V (0.15 - 80 MHz)	
EMC emitted immunity	FALESCOO lively along A	
EN 55022	EN 55022 limit class A	
Approvals Issued approvals	C Tiek	
**	C-Tick	
Scope of delivery and accessories	device start-up instructions	
Scope of delivery Accessories to order separately	device, start-up instructions manual, order no. 943 290-902	
Accessories to order separately	manaa, mad m. 340 230-302	





interface converter electrical/optical for RS 485 field bus networks; repeater function; for quartz glass FO; electrical full duplex or semi-duplex mode	interface converter electrical/optical for RS 485 field bus networks; repeater function; for quartz glass FO; electrical full duplex or semi-duplex mode; long-haul version
1 x optical: FSMA socket 1 x electrical: Sub-D 9-pin, female or 9-pin terminal block	1 x optical: BFOC 2.5 (ST $^{\otimes}$) socket 1 x electrical: Sub-D 9-pin, female or 9-pin terminal block
OZD 485 G2 FSMA	OZD 485 BFOC-1300
943 290-001	943 405-021
0.0250.001	010 100 021
RS 485 (Modbus,)	RS 485 (Modbus,)
10 kOhm	10 kOhm
-7 V +12 V	-7 V +12 V
max. 35 ns _{pp}	max. 35 ns _{pp}
max. 20 ns _{pp}	max. 20 ns _{pp}
max. 2 Mbit/s	max. 2 Mbit/s
860 nm	1300 nm
	-15 dBm
-18 dBm	-12 dBm
-14 dBm	-12 dBm
-27 dBm	-28 dBm
9-pin Sub-D connector, female or 9-pin terminal block	9-pin Sub-D connector, female or 9-pin terminal block
	00000
	22000 m 13 dB link budget at 1300 nm; A = 0.5 dB/km, 2 dB reserve
2000 m 9 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve	14000 m
	16 dB link budget at 1300 nm; A = 0.5 dB/km, 2 dB reserve
2800 m 13 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve	9300 m 16 dB link budget at 1300 nm; A = 0.5 dB/km, 2 dB reserve
1.5 us	1.5 us
5 VDC ±5% or 18 32 VDC	5 VDC ±5% or 18 32 VDC
max. 500 mA at 5 VDC, max. 300 mA at 18 32 VDC	max. 500 mA at 5 VDC, max. 300 mA at 18 32 VDC
3 W	3 W
hot standby link	hot standby link
the little of a south or state of the south of the southo	
signalling of operating status; transmitting data; receiving data	signalling of operating status; transmitting data; receiving data
0 °C to +50 °C	0 °C to +50 °C
-20 °C to +70 °C	-20 °C to +70 °C
-20 °C to +70 °C < 95% (non-condensing)	< 95% (non-condensing)
C 3070 (non-condensing)	C 3070 (non-contactionity)
40 x 117.5 x 92 mm	40 x 117.5 x 92 mm
DIN rail or mounting plate	DIN rail or mounting plate
400 g	400 g
IP 40	IP 40
die-cast zink	die-cast zink
contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV	contact discharge: 4 kV, air discharge: 8 kV, HCP/VCP: 4 kV
10 V/m (80 - 1000 MHz)	10 V/m (80 - 1000 MHz)
power line 2 kV, data line: 1 kV	power line 2 kV, data line: 1 kV
power line 0.5 kV (line/line, line/earth), data line: 1 kV	power line 0.5 kV (line/line, line/earth), data line: 1 kV
10 V (0.15 - 80 MHz)	10 V (0.15 - 80 MHz)
EN 55022 limit class A	EN 55022 limit class A
C-Tick	C-Tick
device, start-up instructions	device, start-up instructions
manual, order no. 943 290-902	manual, order no. 943 290-902

Field Bus



Universal RS 485 Fiberoptic Repeaters

	(IP—	
Product description		
Description	interface converter electrical/optical for RS 485 field bus networks; repeater function;	
	for quartz glass FO; electrical full duplex or semi-duplex mode	
Double and according	Out and the Indianal PEOO OF (OT®) and but	
Port type and quantity	2 x optical: BFOC 2.5 (ST®) socket 1 x electrical: 12-pin terminal block	
	1 x dicettical. 12-piii terriinal block	
Туре	OZD 485 G12	
Order No.	943 776-321	
Electrical interface		
Signal type	RS 485 (Modbus,)	
Input resistance	10 kOhm	
Input voltage range	-7 V +12 V	
Jitter	typ. 10 ns _{pp}	
Distortion of bit duration	typ. 1 ns _{pp}	
Bit rate	0 to 1,5 Mbit/s NRZ	
Optical interface		
Wavelength	860 nm	
Launchable optical power in single-mode fiber (SM) 9/125	333 1111	
Launchable optical power in multi-mode fiber (MM) 50/125	-20 dBm	
Launchable optical power in multi-mode fiber (MM) 62.5/125	-16 dBm	
Launchable optical power in multi-mode fiber (MM) HCS 200/230	-10 dbiii	
Launchable optical power in multi-mode fiber (MM) POF 980/1000		
Optical input power	-30 dBm	
More Interfaces	-30 dbiii	
Power supply	E win towning I black	
	5-pin terminal block	
Signaling contact	5-pin terminal block	
Voltage output	3-pin terminal block	
Network size - length of cable		
Single mode fiber (SM) 9/125 µm		
Multimode fiber (MM) 50/125 μm	2300 m	
Matanious liber (IIIII) 66/126 pin	10 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve	
	, , , , , , , , , , , , , , , , , , , ,	
Multimode fiber (MM) 62.5/125 μm	3100 m	
	14 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve	
Ourhand delection	4.00	
System delay time	< 1,33 us	
Power requirements		
Operating voltage	18 32 VDC (typ. 24 VDC)	
Current consumption	190 mA at 18 VDC, 110 mA at 32 VDC	
Power consumption	3.4 W at 18 VDC, 3.5 W at 32 VDC	
Redundancy		
Redundancy functions	redundant ring, redundant power supply	
Displays		
LEDs	system (operating status, signaling contact); supply voltage; redundancy mode; input	
	signal/input power/receiving data	
Auchiona conditions		
Ambient conditions	05.00 / 00.00	
Operating temperature	-25 °C to +60 °C	
Storage/transport temperature	-25 °C to +70 °C	
Relative humidity	< 95% (non-condensing)	
Mechanical construction		
Dimensions (W x H x D)	40 x 140 x 90 mm	
Mounting	DIN rail or mounting plate	
Weight	650 g	
Protection class	IP 30	
Housing material	die-cast zink	
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV	
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)	
EN 61000-4-4 fast transients (burst)	power line 2 kV, data line: 1 kV	
EN 61000-4-5 surge voltage	power line 1 kV2 kV (line/line, line/earth), data line: 1 kV	
EN 61000-4-6 conducted immunity	10 V (0.15 - 80 MHz)	
EMC emitted immunity		
EN 55022	EN 55022 limit class A	
Approvals		
Issued approvals		
Scope of delivery and accessories		
Scope of delivery	device, start-up instructions	
· · · · · · · · · · · · · · · · · · ·		
Accessories to order separately	manual, order no. 039 516-001	



interface converter electrical/optical for RS 485 field bus networks; repeater function; for quartz glass FO; electrical full duplex or semi-duplex mode; long-haul version	
2 x optical: BFOC 2.5 (ST [®]) socket 1 x electrical: 12-pin terminal block	
OZD 485 G12-1300	
943 777-321	
RS 485 (Modbus,)	
10 kOhm	
-7 V +12 V	
typ. 10 ns _{pp}	
typ. 1 ns _{pp} 0 to 1,5 Mbit/s NRZ	
U to 1,3 Midius INDZ	
1310 nm	
-18 dBm	
-13 dBm	
-13 dBm	
-31 dBm	
5-pin terminal block	
5-pin terminal block	
3-pin terminal block	
22000 m 13 dB link budget at 1310 nm; A = 0,5 dB/km, 2 dB reserve	
16000 m 18 dB link budget at 1310 nm; A = 0,5 dB/km, 2 dB reserve	
16000 m 18 dB link budget at 1310 nm; A = 0,5 dB/km, 2 dB reserve	
< 1,33 us	
18 32 VDC (typ. 24 VDC)	
190 mA at 18 VDC, 110 mA at 32 VDC	
3.4 W at 18 VDC, 3.5 W at 32 VDC	
redundant ring, redundant power supply	
system (operating status, signaling contact); supply voltage; redundancy mode; input signal/input power/receiving data	
-25 °C to +60 °C	
-25 °C to +70 °C < 95% (non-condensing)	
< 9070 (HOH-condensing)	
40 x 140 x 90 mm	
DIN rail or mounting plate	
650 g	
IP 30	
die-cast zink	
contact discharge: 4 kV, air discharge: 8 kV	
10 V/m (80 - 1000 MHz)	
power line 2 kV, data line: 1 kV	
power line 1 kV2 kV (line/line, line/earth), data line: 1 kV	
10 V (0.15 - 80 MHz)	
EN 55022 limit class A	
device, start-up instructions manual, order no. 039 516-001	

The shortest data link between office and factory.

Clip-on modules connect two different worlds together.





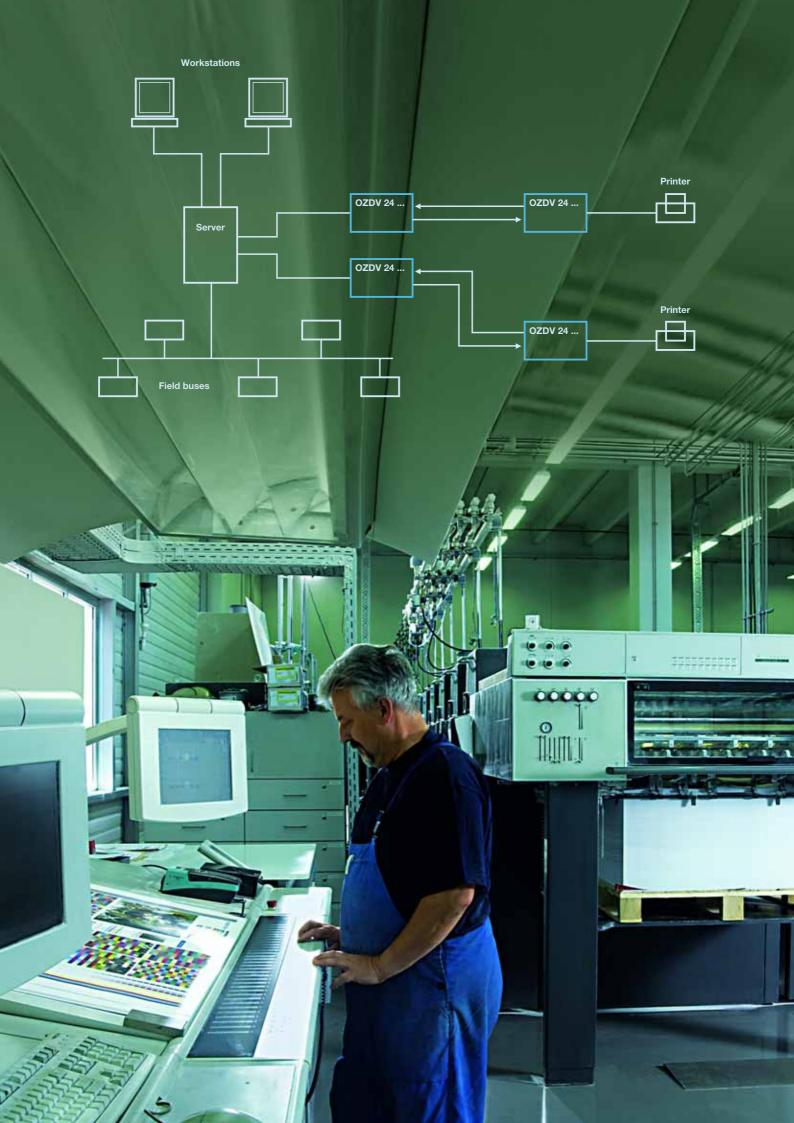
Hirschmann's digital modules are perfectly suited for all situations requiring the interference-free transmission of classical RS 232/serial signals under highly demanding operating conditions over long distances between computers and peripheral devices such as printers, terminals and machines in automation technology.

Optical fiber transmission systems effectively elliminate the risk of RFI/EMI. At the same time, they protect valuable terminal devices against possible damage through optical isolation, thereby contributing to the protection of investments.

In large companies where data is centrally collected, the switch to Hirschmann FiberINTERFACES will extend the transmission paths and permit the placement of cables in interference-prone environments.

The modules, in compact clip-on housings made of stable centrifugal cast zinc, can be placed directly on the terminal device or mounted on a DIN rail via an adapter. Some of the modules obtain their voltage supply from the data signal and are therefore not dependent on an external voltage source.





Overview V.24/RS 232 Single-Channel Modules.

650 nm

OZDV 2451 P

OZDV 2471 P

OZDV 2451 P

17 dB

14 dB

OZDV 2471 P

14 dB

29 dB





860 nm	OZDV 2451 G	OZDV 2471 G
	0121 1.01 G	02512
	0 – 1 500 m	0 – 800 m
OZDV 2451 G	7.5 dB	5.5 dB
	0 – 800 m	0-6700 m
OZDV 2471 G	5.5 dB	23 dB

860 nm		
	OZDV 2451 G	OZDV 2471 G
. 🐟		
	0 – 2 000 m	0 – 1 400 m
OZDV 2451 G	10 dB	8 dB
•		
	0-1400 m	0 – 6 600 m
OZDV 2471 G		
02DV 2471 G	8 dB	26 dB
	O UD	20 UD

 $^{^{\}rm 1)}$ with fiber S 980/1000 m (0.25 dB/m attenuation and 2 dB system reserve)

 $^{^{2)}}$ with fiber G 50/125 m (3 dB/km attenuation and 3 dB system reserve)

³⁾ with fiber G 62.5/125 m (3.5 dB/km attenuation and 3 dB system reserve)

Digital



V.24/RS 232 single-channel modules

Product description		
Description	interface converter electrical/optical for V.24; power supply through data signal; for plastic FO; for plugging onto the Sub-D socket provided on the terminal or mounting onto a DIN rail (with DIN rail adapter accessories)	
Port type and quantity	1 electrical port: 25-pin Sub-D connector, male; 1 optical port: 2 sockets BFOC 2.5 (ST®)	
Setting possibilities	DTE- or DCE operating mode external voltage supply via pin 11 or internally from the data signal shield ground galvanically connected or not connected to signal ground	
Type	OZDV 2451 P	
Order No.	943 316-021	
Electrical interface		
Signal type	V.24 (RS 232 D) interface level	
Bit rate	DC to 20 kbit/s (DC coupling)	
Bit error frequency	< 10-9	
Terminal assignment data	pin 1: PGND; pin 7: GND; pin 11: Vcc; pin 4+5 and pin 6+8+20 bridged DTE operation: pin 2 TxD, pin 3 RxD DCE operation: pin 2 RxD, pin 3 TxD	
Optical interface		
Wavelength	665 nm	
More Interfaces		
Power supply	from the data signal (electrical interface) or 25-pin Sub-D connector (pin 11)	
Network size - length of cable		
Single mode fiber (SM) 9/125 µm		
Multimode fiber (MM) 50/125 μm		
mulanicae nosi (mm) con 120 pm		
Multimode fiber (MM) 62.5/125 μm		
Multimode fiber HCS (MM) 200/230 μm		
Multimode fiber POF (MM) 980/1000 μm	0 - 60 m 17 dB link budget, A = 0.25 dB/m, 2 dB reserve combination with other modules see page 28 and 29	
Power requirements		
Operating voltage	no external power supply required; with supply via pin 11: -20 V5 V or +5 V +20 V	
Current consumption	3.3 mA (max. 3.8 mA) via data signal	
Power consumption	20 mW at 4.5 V	
Ambient conditions		
Operating temperature	0 °C to +50 °C	
Storage/transport temperature	-20 °C to +70 °C	
Relative humidity	10% to 90%	
Mechanical construction		
Dimensions (W x H x D)	56.5 x 18 x 76 mm	
Mounting	plugging onto the terminal unit	
Weight	110 g	
Protection class	IP 40	
Housing material	die-cast zink	
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV	
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)	
EN 61000-4-4 fast transients (burst)	10 7/11 (00 1000 11112)	
EN 61000-4-5 surge voltage		
EMC emitted immunity		
EN 55022	EN 55022 limit class B	
	LIN JJUZZ IIIIII CIASS D	
Approvals	O Tall	
Issued approvals	C-Tick	
Scope of delivery and accessories		
Scope of delivery	device, operating instructions, 2 BFOC (ST®) optical plugs	
Accessories to order separately	DIN rail adapter OZDV HA	



interface converter electrical/optical for V.24; power supply through data signal;	
for quartz glass FO; for plugging onto the Sub-D socket provided on the terminal or	
mounting onto a DIN rail (with DIN rail adapter accessories)	
1 electrical port: 25-pin Sub-D connector, male;	
1 optical port: 2 sockets BFOC 2.5 (ST®)	
DTE DOEtiti	
DTE- or DCE operating mode external voltage supply via pin 11 or internally from the data signal	
shield ground galvanically connected or not connected to signal ground	
Siliela ground galvanically confidenced of not confidenced to signal ground	
OZDV 2451 G	
 943 299-021	
0.10.200.02.1	
V.24 (RS 232 D) interface level	
DC to 20 kbit/s (DC coupling)	
< 10-9	
pin 1: PGND; pin 7: GND; pin 11: Vcc; pin 4+5 and pin 6+8+20 bridged	
DTE operation: pin 2 TxD, pin 3 RxD	
DCE operation: pin 2 RxD, pin 3 TxD	
860 nm	
000 1111	
 from the data signal (cleatrical interface) or 25 pin Cub D connector (= 11)	
from the data signal (electrical interface) or 25-pin Sub-D connector (pin 11)	
0 - 1500 m	
7.5 dB link budget, A = 3.0 dB/km, 3 dB reserve	
combination with other modules see page 28 and 29	
0 - 2000 m	
10 dB link budget, A = 3.5 dB/km, 3 dB reserve	
combination with other modules see page 28 and 29	
combination with other modules see page 20 and 25	
no external power supply required;	
with supply via pin 11: -20 V5 V or +5 V +20 V	
3.3 mA (max. 3.8 mA) via data signal	
20 mW at 4.5 V	
0 °C to +50 °C	
-20 °C to +70 °C	
10% to 90%	
56.5 x 18 x 76 mm	
plugging onto the terminal unit	
110 g	
IP 40	
die-cast zink	
contact discharge: 4 kV, air discharge: 8 kV	
10 V/m (80 - 1000 MHz)	
EN 55022 limit class B	
LIN JJUZZ IIIIII GIASS D	
C-Tick	
C-Tick device, operating instructions	

Digital



V.24/RS 232 single-channel modules

Product description	interfece conventes alcohological/antical for VOA
Description	interface converter electrical/optical for V.24; for plastic FO; for plugging onto the Sub-D socket provided on the terminal or mounting onto a DIN rail (with DIN rail adapter accessories)
Port type and quantity	1 electrical port: 25-pin Sub-D connector, male; 1 optical port: 2 sockets BFOC 2.5 (ST®)
Setting possibilities	DTE- or DCE operating mode voltage supply internally via pin 11/pin 18 Sub-D socket or externally via low voltage socket shield ground galvanically connected or not connected to signal ground
Туре	OZDV 2471 P
Order No.	943 340-021
Electrical interface	\(\(\text{A}\)\(\text{PQ}\) \(\text{QQ}\) \(\text{PQ}\) \(\text{PQ}\)
Signal type	V.24 (RS 232 D) interface level
Bit rate Bit error frequency	DC to 115 kbit/s (DC coupling) <10-9
Terminal assignment data	pin 1: PGND; pin 7: GND; pin 11: Vcc; pin 4+5 and pin 6+8+20 bridged DTE operation: pin 2 TxD, pin 3 RxD DCE operation: pin 2 RxD, pin 3 TxD
Optical interface	
Wavelength	665 nm
More Interfaces	
Power supply	4-pin low voltage plug, M8 shape according to IEC 947-5-2 or 25-pin Sub-D connector (pin 11/pin 18)
Network size - length of cable	
Single mode fiber (SM) 9/125 μm	
Multimode fiber (MM) 50/125 μm	
Multimode fiber (MM) 62.5/125 μm	
Multimode fiber HCS (MM) 200/230 μm	0 - 2100 m 20 dB link budget, A = 8.0 dB/km, 3 dB reserve combination with other modules see page 28 and 29
Multimode fiber POF (MM) 980/1000 μm	0 - 100 m 29 dB link budget, A = 0.25 dB/m, 2 dB reserve combination with other modules see page 28 and 29
Power requirements	
Operating voltage	+5 VDC via PSW 5-24 plug-in power supply or +5 VDC +-5% external supply or +8 +15 VDC external supply
Current consumption	90 mA (max. 120 mA)
Power consumption	0.6 W/1.8 W
Ambient conditions	20.00 / 50.00
Operating temperature Storage/transport temperature	-20 °C to +50 °C -20 °C to +70 °C
Relative humidity	10% to 90%
Mechanical construction	
Dimensions (W x H x D)	56.5 x 18 x 76 mm
Mounting	plugging onto the terminal unit
Weight	110 g
Protection class	IP 40
Housing material	die-cast zink
EMC interference immunity EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)
EN 61000-4-4 fast transients (burst)	2 kV (plug-in power supply 220 V side)
EN 61000-4-5 surge voltage	power line: 1 kV (line/line), 2 kV (line/earth) (plug-in power supply 220 V side)
EMC emitted immunity	
EN 55022	EN 55022 limit class B
Approvals	0.71
Issued approvals	C-Tick
Scope of delivery and accessories Scope of delivery	device, operating instructions, 2 BFOC (ST®) optical plugs
Accessories to order separately	plug-in power supply PSW 5-24 DIN rail adapter OZDV HA





interface converter electrical/optical for V.24; for quartz glass FO; for plugging onto the Sub-D socket provided on the terminal or mounting onto a DIN rail (with DIN rail adapter accessories)	interface converter electrical/optical for V.24; for quartz glass FO; for plugging onto the Sub-D socket provided on the terminal or mounting onto a DIN rail (with DIN rail adapter accessories); long-haul version
1 electrical port: 25-pin Sub-D connector, male; 1 optical port: 2 sockets BFOC 2.5 (ST®)	1 electrical port: 25-pin Sub-D connector, male; 1 optical port: 2 sockets BFOC 2.5 (ST®)
DTE- or DCE operating mode voltage supply internally via pin 11/pin 18 Sub-D socket or externally via low voltage socket shield ground galvanically connected or not connected to signal ground	DTE- or DCE operating mode voltage supply internally via pin 11/pin 18 Sub-D socket or externally via low voltage socket shield ground galvanically connected or not connected to signal ground
OZDV 2471 G	OZDV 2471 G-1300
943 341-021	933 990-021
V04 (D0 000 D) interfere level	V04 /D0 000 D) interfere level
V.24 (RS 232 D) interface level DC to 115 kbit/s (DC coupling)	V.24 (RS 232 D) interface level DC to 115 kbit/s (DC coupling)
< 10-9	< 10-9
pin 1: PGND; pin 7: GND; pin 11: Vcc; pin 4+5 und pin 6+8+20 bridged DTE operation: pin 2 TxD, pin 3 RxD DCE operation: pin 2 RxD, pin 3 TxD	pin 1: PGND; pin 7: GND; pin 11: Vcc; pin 4+5 and pin 6+8+20 bridged DTE operation: pin 2 TxD, pin 3 RxD DCE operation: pin 2 RxD, pin 3 TxD
860 nm	1300 nm
4-pin low voltage plug, M8 shape according to IEC 947-5-2 or 25-pin Sub-D connector (pin 11/pin 18)	4-pin low voltage plug, M8 shape according to IEC 947-5-2 or 25-pin Sub-D connector (pin 11/pin 18)
	0 - 32000 m 18 dB link budget, A = 0.5 dB/km, 2 dB reserve
0 - 6700 m 23 dB link budget, A = 3.0 dB/km, 3 dB reserve combination with other modules see page 28 and 29	0 - 19000 m 21 dB link budget, A = 1.0 dB/km, 2 dB reserve
0 - 6600 m 26 dB link budget, A = 3.5 dB/km, 3 dB reserve combination with other modules see page 28 and 29	0 - 12000 m 21 dB link budget, A = 1.5 dB/km, 2 dB reserve
0 - 3100 m 28 dB link budget, A = 8.0 dB/km, 3 dB reserve combination with other modules see page 28 and 29	
+5 VDC via PSW 5-24 plug-in power supply or + 5 VDC +-5% external supply or +8 +15 VDC external supply	+5 VDC via PSW 5-24 plug-in power supply or + 5 VDC +-5% external supply or +8 +15 VDC external supply
90 mA (max. 120 mA)	90 mA (max. 120 mA)
0.6 W/1.8 W	0.6 W/1.8 W
-20 °C to +50 °C	-20 °C to +50 °C
-20 °C to +50 °C	-20 °C to +50 °C
10% to 90%	10% to 90%
56.5 x 18 x 76 mm	56.5 x 18 x 80 mm
plugging onto the terminal unit	plugging onto the terminal unit
110 g	135 g
IP 40 die-cast zink	IP 40 die-cast zink
UIG-CASI ZIIIN	UIG-CASI ZIIIN
contact discharge: 4 kV, air discharge: 8 kV	contact discharge: 4 kV, air discharge: 8 kV
10 V/m (80 - 1000 MHz)	10 V/m (80 - 1000 MHz)
2 kV (plug-in power supply 220 V side)	2 kV (plug-in power supply 220 V side)
power line: 1 kV (line/line), 2 kV (line/earth) (plug-in power supply 220 V side)	power line: 1 kV (line/line), 2 kV (line/earth) (plug-in power supply 220 V side)
EN 55022 limit class B	EN 55022 limit class B
C Tipk	C Tick
C-Tick	C-Tick
device, operating instructions	device, operating instructions
plug-in power supply PSW 5-24	plug-in power supply PSW 5-24
DIN rail adapter OZDV HA	DIN rail adapter OZDV HA

Digital



V.24 Multiplexer

Product description		T
Description	4-channel multiplexer optical/electrical for V.24;	
	for plastic FO; for plugging onto the Sub-D socket provided on the terminal or mounting onto a DIN rail (with DIN rail adapter accessories)	
Port type and quantity	1 electrical port: 25-pin Sub-D connector, male; 1 optical port: 2 sockets OVKS (Hirschmann)	
Setting possibilities	DTE- or DCE operating mode 1-channel operation or multi-channel operation	
	voltage supply internally via pin 11 of the Sub-D-socket or externally via low-voltage socket shield ground galvanically connected or not connected to signal ground	
Туре	OMDV 2404 P OV	
Order No. Electrical interface	943 305-001	4
	V24 /DS 222 D) interface level	
Signal type Bit rate	V.24 (RS 232 D) interface level 1-channel operation:	+
J. Ide	DC to 66 kbit/s (at <10% jitter), DC to 200 kbit/s (at <30% jitter) 4-channel operation: DC to 20 kbit/s (at <10% jitter), DC to 60 kbit/s (at <30% jitter)	
Edge jitter	1-channel operation: 1.5 µs 4-channel operation: 5 µs	
Bit error frequency	< 10-9	
Terminal assignment data	pin 1: PGND; pin 7: GND; pin 11: Vcc; 1-channel operation: pin 4+5, pin 6+20 and pin 17+24 bridged DTE operation: inputs: pin 2, 4, 20, 24; outputs: pin 3, 5, 6, 17 DCE operation: inputs: pin 3, 5, 6, 17; outputs: pin 2, 4, 20, 24	
Optical interface		
Wavelength	665 nm	
More Interfaces		
Power supply	4-pin low voltage socket, M8 shape according to IEC 947-5-2 or 25-pin Sub-D connector (pin 11)	
Network size - length of cable		
Single mode fiber (SM) 9/125 μm Multimode fiber (MM) 50/125 μm		
Multimode fiber (MM) 62.5/125 μm		
Multimode fiber HCS (MM) 200/230 μm		
Multimode fiber POF (MM) 980/1000 μm	>=40 m 13 dB link budget, A = 0.25 dB/m, 2 dB reserve	
Power requirements		
Operating voltage	+5 VDC via PSW 5-24 plug-in power supply or +5 VDC +-5% external supply	
Current consumption	max. 300 mA	
Power consumption	1.5 W	
Ambient conditions	2004 5000	
Operating temperature Storage/transport temperature	0 °C to +50 °C -20 °C to +70 °C	4
Relative humidity	10% to 90%	_
Mechanical construction	1070 to 3070	_
Dimensions (W x H x D)	56.5 x 18 x 74.5 mm	
Mounting	plugging onto the terminal unit or the adapter cable	
Weight	130 g	
Protection class	IP 40	
Housing material	die-cast zink	
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV	
EN 61000-4-3 electromagnetic field EN 61000-4-4 fast transients (burst)	10 V/m (80 - 1000 MHz) 2 kV (plug-in power supply 220 V side)	
EN 61000-4-4 last transients (burst) EN 61000-4-5 surge voltage	power line: 1 kV (line/line), 2 kV (line/earth) (plug-in power supply 220 V side)	
EMC emitted immunity	power and the fine most to fine carril (bind-in bower aubbis 220 v and)	
EN 55022	EN 55022 limit class B	
Approvals		
Issued approvals	C-Tick	
Scope of delivery and accessories		
Scope of delivery	device, operating instructions, 2 OVKS 2,2 optical plugs	
Accessories to order separately	plug-in power supply PSW 5-24 DIN rail adapter OZDV HA	





4-channel multiplexer optical/electrical for V.24; for quartz glass and PDF (HCSR) FO; for plugging onto the Sub-D socket provided on the terminal or mounting onto a DIN rail (with DIN rail adapter accessories)	4-channel multiplexer optical/electrical for V.24; for quartz glass FO; long-haul version; for plugging onto the Sub-D socket provided on the terminal or mounting onto a DIN rail (with DIN rail adapter accessories)
1 electrical port: 25-pin Sub-D connector, male; 1 optical port: 2 sockets BFOC 2.5 (ST [®])	1 electrical port: 25-pin Sub-D connector, male; 1 optical port: 2 sockets BFOC 2.5 (ST®)
DTE- or DCE operating mode 1-channel operation or multi-channel operation voltage supply internally via pin 11 of the Sub-D-socket or externally via low-voltage	DTE- or DCE operating mode 1-channel operation or multi-channel operation voltage supply internally via pin 11 of the Sub-D-socket or externally via low-voltage
socket shield ground galvanically connected or not connected to signal ground	socket shield ground galvanically connected or not connected to signal ground
OMDV 2404 G BFOC	OMDV 2404 G BFOC-1300
943 315-021	943 315-121
V.24 (RS 232 D) interface level	V.24 (RS 232 D) interface level
1-channel operation: DC to 66 kbit/s (at <10% jitter), DC to 200 kbit/s (at <30% jitter) 4-channel operation:	1-channel operation: DC to 66 kbit/s (at <10% jitter), DC to 200 kbit/s (at <30% jitter) 4-channel operation:
DC to 20 kbit/s (at <10% jitter), DC to 60 kbit/s (at <30% jitter)	DC to 20 kbit/s (at <10% jitter), DC to 60 kbit/s (at <30% jitter)
1-channel operation: 1.5 µs 4-channel operation: 5 µs	1-channel operation: 1.5 μs 4-channel operation: 5 μs
< 10-9	< 10-9
pin 1: PGND; pin 7: GND; pin 11: Vcc; 1-channel operation: pin 4+5, pin 6+20 and pin 17+24 bridged DTE operation: inputs: pin 2, 4, 20, 24; outputs: pin 3, 5, 6, 17 DCE operation: inputs: pin 3, 5, 6, 17; outputs: pin 2, 4, 20, 24	pin 1: PGND; pin 7: GND; pin 11: Vcc; 1-channel operation: pin 4+5, pin 6+20 and pin 17+24 bridged DTE operation: inputs: pin 2, 4, 20, 24; outputs: pin 3, 5, 6, 17 DCE operation: inputs: pin 3, 5, 6, 17; outputs: pin 2, 4, 20, 24
860 nm	1300 nm
333	1555 1
4-pin low voltage socket, M8 shape according to IEC 947-5-2 or 25-pin Sub-D connector (pin 11)	4-pin low voltage socket, M8 shape according to IEC 947-5-2 or 25-pin Sub-D connector (pin 11)
	22000 m
	13 dB link budget, at +25 °C, A = 0.5 dB/km, 2 dB reserve
	14000 m 9 dB link budget, at +50 °C, A = 0.5 dB/km, 2 dB reserve
>=2000 m 9 dB link budget, A = 3.0 dB/km, 3 dB reserve	4000 m 15 dB link budget, at +25 °C, A = 3.0 dB/km, 2 dB reserve
>=2500 m 12 dB link budget, A = 3.5 dB/km, 3 dB reserve	3400 m 15 dB link budget, at +25 °C, A = 3.5 dB/km, 2 dB reserve
>=1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve	
+5 VDC via PSW 5-24 plug-in power supply or	+5 VDC via PSW 5-24 plug-in power supply or
+5 VDC +-5% external supply	+5 VDC +-5% external supply
+5 VDC +-5% external supply max. 300 mA	+5 VDC +-5% external supply max. 300 mA
+5 VDC +-5% external supply	+5 VDC +-5% external supply
+5 VDC +-5% external supply max. 300 mA 1.5 W	+5 VDC +-5% external supply max. 300 mA 1.5 W
+5 VDC +-5% external supply max. 300 mA	+5 VDC +-5% external supply max. 300 mA
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90%	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90%
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm plugging onto the terminal unit	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm plugging onto the terminal unit
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm plugging onto the terminal unit 130 g	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm plugging onto the terminal unit 130 g
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm plugging onto the terminal unit 130 g IP 40	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm plugging onto the terminal unit 130 g IP 40
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm plugging onto the terminal unit 130 g	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm plugging onto the terminal unit 130 g
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm plugging onto the terminal unit 130 g IP 40	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm plugging onto the terminal unit 130 g IP 40
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm plugging onto the terminal unit 130 g IP 40 die-cast zink	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm plugging onto the terminal unit 130 g IP 40 die-cast zink
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm plugging onto the terminal unit 130 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) 2 kV (plug-in power supply 220 V side)	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm plugging onto the terminal unit 130 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) 2 kV (plug-in power supply 220 V side)
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm plugging onto the terminal unit 130 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz)	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm plugging onto the terminal unit 130 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz)
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm plugging onto the terminal unit 130 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) 2 kV (plug-in power supply 220 V side)	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm plugging onto the terminal unit 130 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) 2 kV (plug-in power supply 220 V side)
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm plugging onto the terminal unit 130 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) 2 kV (plug-in power supply 220 V side) power line: 1 kV (line/line), 2 kV (line/earth) (plug-in power supply 220 V side)	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm plugging onto the terminal unit 130 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) 2 kV (plug-in power supply 220 V side) power line: 1 kV (line/line), 2 kV (line/earth) (plug-in power supply 220 V side)
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm plugging onto the terminal unit 130 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) 2 kV (plug-in power supply 220 V side) power line: 1 kV (line/line), 2 kV (line/earth) (plug-in power supply 220 V side) EN 55022 limit class B C-Tick	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm plugging onto the terminal unit 130 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) 2 kV (plug-in power supply 220 V side) power line: 1 kV (line/line), 2 kV (line/earth) (plug-in power supply 220 V side) EN 55022 limit class B C-Tick
+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 76 mm plugging onto the terminal unit 130 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) 2 kV (plug-in power supply 220 V side) power line: 1 kV (line/line), 2 kV (line/earth) (plug-in power supply 220 V side) EN 55022 limit class B	+5 VDC +-5% external supply max. 300 mA 1.5 W 0 °C to +50 °C -20 °C to +70 °C 10% to 90% 56.5 x 18 x 80 mm plugging onto the terminal unit 130 g IP 40 die-cast zink contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) 2 kV (plug-in power supply 220 V side) power line: 1 kV (line/line), 2 kV (line/earth) (plug-in power supply 220 V side) EN 55022 limit class B

Safety that perfectly suits the image.

Secure, interference-free image transmission of video signals over fiber optic cables.





Hirschmann fiber optic video converters are available for various signal bandwidths and ranges enabling optimum adaptation to specific environments and situations — from building monitoring and traffic monitoring in tunnels to highly demanding quality and medical monitoring equipment applications.

The advantages of FiberINTERFACES for video are obvious: optical transmission technology is impervious to RFI/EMI influences and can cover distances extending over many kilometers/miles. In medical devices, an uncorrupted image could save lives. And in mobile technology, there is no need for adjustment to the high signal frequencies as required in conventional equipment using coaxial cable transmission.

Video FiberINTERFACES are intended for use in monitoring, security and safety equipments in environments with electromagnetic noise. In chemical factories and in high-voltage installations.

Optical transmission technology can considerably increase the range of video transmitters and receivers in comparison to conventional cabling – without using expensive intermediate amplifiers.







Overview Composite Video Transmitter/Receiver.

Fiber G 50/125 ¹⁾	Transmitter	8 15	-	
5	Receiver	OSV 052	OSV 052-E	OSVC 01
2				
G		0 – 3 300 m	0 – 3 300 m	0 – 3 200 m
ē	-			
<u> </u>	OEV 052	7 MHz	7 MHz	7 MHz
-				
		0 – 3 300 m	0 – 3 300 m	0 – 3 200 m
	1			
	OEV 052-E	7 MHz	7 MHz	7 MHz
		0-1300 m	0-1300 m	0 – 1 200 m
	1			
	OEV 801-E	50 MHz	50 MHz	30 MHz
	31	0 – 1 300 m	0 –1300 m	0-1200 m
	ORVC G1 BFOC	50 MHz	50 MHz	30 MHz

Larger distances can be covered by using higher quality fibers.

 $^{^{1)}}$ with fiber G 50/125 m (3.0 dB/km attenuation and 3 dB system reserve)

 $^{^{2)}}$ with fiber G 62.5/125 m (3.5 dB/km attenuation and 3 dB system reserve)

Transmitter		-		25 ²⁾
Receiver	OSV 052	OSV 052-E	OSVC 01	5/1
	0 – 3 400 m	0 – 3 400 m	0 – 3 300 m	Fiber G 62.5/125
OEV 052	7 MHz	7 MHz	7 MHz	ber
	0 – 3 400 m	0 – 3 400 m	0 – 3 300 m	ΙĒ
OEV 052-E	7 MHz	7 MHz	7 MHz	
	300 – 1 700 m	300 – 1 700 m	300 –1400 m	
OEV 801-E	50 MHz	50 MHz	30 MHz	
2	0-1700 m	0 –1 700 m	0 –1400 m	
ORVC G1 BFOC	50 MHz	50 MHz	30 MHz	

Video



Composite Video Transmitters/Receivers

Product description		
Description	composite video transmitter 50 MHz;	
	can be combined with the receivers	
	OEV 052 BFOC, OEV 052-E BFOC, OEV 801-E, ORVC G1 BFOC	
Port type and quantity	1 x electrical: BNC socket	
For type and quantity	1 x optical: BFOC 2.5 (ST®) socket	
	1 A Spilotin Bi 88 218 (81) 666161	
Туре	OSV 052 BFOC	
Order No.	943 016-021	
Electrical interface		
Signal type	composite	
Input voltage	1 V _{pp}	
Input resistance	75 Ohm	
Output voltage		
Output resistance		
Pulse tilt (horiz. and vert.)		
Differential amplification	typ. 10%	
Differential phase		
Upper limiting frequency (-3 dB)	50 MHz	
Optical interface		
Wavelength	860 nm	
Launchable optical power in single-mode fiber (SM) 9/125		
Launchable optical power in multi-mode fiber (MM) 50/125	> 15 μW _{pp} , -18 dBm	
Launchable optical power in multi-mode fiber (MM) 62.5/125	> 25 μW _{pp} , -16 dBm	
Launchable optical power in multi-mode fiber (MM) HCS 200/230		
Launchable optical power in multi-mode fiber (MM) POF 980/1000		
Optical input power		
Laser protection class	1 according to DIN EN 60825	
More Interfaces		
Power supply	low voltage socket, device polarity: pin: +V _s /socket: ground	
Signaling contact		
Network size - length of cable		
Single mode fiber (SM) 9/125 μm	3300 m	
Multimode fiber (MM) 50/125 μm	13 dB link budget, A = 3.0 dB/km, 3 dB reserve	
	with OEV 052 BFOC, OEV 052-E BFOC	
	combination with other receivers see page 38 and 39	
Multimode fiber (MM) 62.5/125 μm	3400 m	
Multimode liber (MM) 62.3/123 μm	15 dB link budget, A = 3.5 dB/km, 3 dB reserve	
	with OEV 052 BFOC, OEV 052-E BFOC	
	combination with other receivers see page 38 and 39	
Power requirements		
Operating voltage	7.5 15 V	
Current consumption	110 mA	
Power consumption	1.7 W	
Ambient conditions		
Operating temperature	-20 °C to +50 °C	
Storage/transport temperature	-20 °C to +80 °C	
Relative humidity (non-condensing)	10% to 90%	
Mechanical construction		
Mounting	stand-alone unit	
Dimensions (W x H x D)	100 x 24.1 x 50 mm	
Weight	210 g	
Protection class	IP 40	
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV	
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)	
EN 61000-4-4 fast transients (burst)	power line: 2 kV, data line: 1 kV	
EN 61000-4-5 surge voltage	power line: 1 kV (line/line)	
EN 61000-4-6 conducted immunity		
EMC emitted immunity		
EN 55022	EN 55022 limit class B	
Scope of delivery and accessories		
Scope of delivery	ready-to-connect transmitter, operating instructions	
Accessories to order separately	plug-in power supply SNT 012	
Notes	To account an artist the control of	
Picture signal	To ensure correct operation, the controller requires a degree of whiteness of 0.5% in the picture signal.	
	process o organia.	





composite video transmitter 50 MHz; can be combined with the receivers OEV 052 BFOC, OEV 052-E BFOC, OEV 801-E, ORVC G1 BFOC	Composite video receiver 7 MHz; can be combinied with the transmitters OSV 052 BFOC, OSV 052-E BFOC, OSVC 01 BFOC
1 x electrical: BNC socket	1 x optical: BFOC 2.5 (ST®) socket
1 x optical: BFOC 2.5 (ST®) socket	1 x electrical: BNC socket
OSV 052-E BFOC	OEV 052 BFOC
933 965-021	943 017-021
composite	composite
1 V _{pp}	Composite
75 Ohm	
	1 V _{pp} at 75 Ohm
	75 Ohm
typ. 10%	typ. 2%
- Special Control of the Control of	typ. 2.5°
50 MHz	7 MHz
860 nm	860 nm
> 15 μW _{pp} , -18 dBm	
> 25 µW _{pp} , -16 dBm	
	≥ 0.8 μW _{pp} , -31 dBm with S/N > 45 dBw
1 according to DIN EN 60825	1 according to DIN EN 60825
plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs	low voltage socket, device polarity: pin: +V _s /socket: ground
plag definitional accessioning to Birt Elit cooce E, pini in globalita, pini cell in s	Ton voltage econor, derive potatity, pill 1 ty econor. greatin
3300 m	3300 m
13 dB link budget, A = 3.0 dB/km, 3 dB reserve with OEV 052 BFOC, OEV 052-E BFOC	13 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSV 052 BFOC, OSV 052-E BFOC
combination with other receivers see page 38 and 39	combination with other transmitters see page 38 and 39
3400 m	3400 m
15 dB link budget, A = 3.5 dB/km, 3 dB reserve	15 dB link budget, A = 3.5 dB/km, 3 dB reserve
with OEV 052 BFOC, OEV 052-E BFOC	with OSV 052 BFOC, OSV 052-E BFOC
combination with other receivers see page 38 and 39	combination with other transmitters see page 38 and 39
14,5 24 V 110 mA	12 15 V 120 mA
2.6 W	1.8 W
2.0 **	1.0 **
-20 °C to +50 °C	-20 °C to +50 °C
-20 °C to +80 °C	-20 °C to +80 °C
10% to 90%	10% to 90%
10" plug-in card	stand-alone unit
19" plug-in card 30 (6 PU) x 128.5 (3 HU) x 185 mm	100 x 24.1 x 50 mm
450 g	210 g
	IP 40
contact discharge: 4 kV, air discharge: 8 kV	contact discharge: 4 kV, air discharge: 8 kV
10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV	10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV
power line: 2 kV, data line: 1 kV power line: 1 kV (line/line)	power line: 2 kV, data line: 1 kV power line: 1 kV (line/line)
portor miles i rea (miles mile)	position in the fundamental
EN 55022 limit class B	EN 55022 limit class B
plug-in transmitter card, operating instructions	ready-to-connect receiver, operating instructions
19" subrack ART 84	plug-in power supply SNT 012
To ensure correct operation, the controller requires a degree of whiteness of 0.5% in the picture signal.	To ensure correct operation, the controller requires a degree of whiteness of 0.5% in the picture signal.

Video



Composite Video Transmitters/Receivers

Product description		
Description	Composite video receiver 7 MHz; can be combinied with the transmitters OSV 052 BFOC, OSV 052-E BFOC, OSVC 01 BFOC	
Port type and quantity	1 x optical: BFOC 2.5 (ST [®]) socket 1 x electrical: BNC socket	
Туре	OEV 052-E BFOC	
Order No.	933 964-021	
Electrical interface		
Signal type	composite	
Input voltage		
Input resistance	1 V at 75 Ohm	
Output voltage Output resistance	1 V _{pp} at 75 Ohm 75 Ohm	
Pulse tilt (horiz. and vert.)	typ. 2%	
Differential amplification	1)p. 270	
Differential phase	typ. 2.5°	
Upper limiting frequency (-3 dB)	7 MHz	
Optical interface		
Wavelength	860 nm	
Launchable optical power in single-mode fiber (SM) 9/125		
Launchable optical power in multi-mode fiber (MM) 50/125 Launchable optical power in multi-mode fiber (MM) 62.5/125		
Launchable optical power in multi-mode fiber (MM) HCS 200/230		
Launchable optical power in multi-mode fiber (MM) POF 980/1000		
Optical input power	≥ 0.8 µW _{pp} , -31 dBm with S/N > 45 dBw	
Laser protection class	1 according to DIN EN 60825	
More Interfaces		<u> </u>
Power supply	plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +V _s	
Signaling contact		
Network size - length of cable Single mode fiber (SM) 9/125 µm		
Multimode fiber (MM) 50/125 μm	3300 m 13 dB link budget, A = 3.0 dB/km, 3 dB reserve	
	with OSV 052 BFOC, OSV 052-E BFOC combination with other transmitters see page 38 and 39	
Multimode fiber (MM) 62.5/125 μm	3400 m 15 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSV 052 BFOC, OSV 052-E BFOC combination with other transmitters see page 38 and 39	
Power requirements Operating voltage	17.6 24 V	
Current consumption	17.0 24 V	
Power consumption	2.9 W	
Ambient conditions		
Operating temperature	-20 °C to +50 °C	
Storage/transport temperature	-20 °C to +80 °C	
Relative humidity (non-condensing) Mechanical construction	10% to 90%	
Mounting	19" plug-in card	
Dimensions (W x H x D)	30 (6 PU) x 128.5 (3 HU) x 185 mm	
Weight	450 g	
Protection class		
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV	
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)	
EN 61000-4-4 fast transients (burst)	power line: 2 kV, data line: 1 kV	
EN 61000-4-5 surge voltage EN 61000-4-6 conducted immunity	power line: 1 kV (line/line)	
EMC emitted immunity		
EN 55022	EN 55022 limit class B	
Scope of delivery and accessories		
Scope of delivery	plug-in receiver card, operating instructions	
Accessories to order separately	19" subrack ART 84	
Notes	To any and any other through the second through the	
Picture signal	To ensure correct operation, the controller requires a degree of whiteness of 0.5% in the picture signal.	





composite video transmitter 30 MHz; can be combined with the receivers OEV 052 BFOC, OEV 052-E BFOC, OEV 801-E, ORVC G1 BFOC	Composite video receiver 50 MHz; can be combinied with the transmitters OSV 052(-E) BFOC, OSVC 01 BFOC, OSVR 80M2-E BFOC, OSVR 150M-PCI64
1 x electrical: BNC socket 1 x optical: BFOC 2.5 (ST®) socket	1 x optical: BFOC 2.5 (ST®) socket 1 x electrical: BNC socket
OSVC 01 BFOC	ORVC G1 BFOC
933 835-021	943 688-221
composite	composite
1 V _{pp}	Composito
75 Ohm	
	1 V _{pp} at 75 Ohm
	75 Ohm
	typ. 1%
< 10%	
typ. 3.5° 30 MHz	50 MHz
JU IVII IZ	30 WH12
860 nm	860 nm
> 14 μW _{pp} , -18.5 dBm	
> 20 μW _{pp} , -17 dBm	
	0.111.071.071.45.19
1 according to DIN FN COOCE	≥ 3 μW _{pp} , -25 dBm with S/N > 45 dBw
1 according to DIN EN 60825	1 according to DIN EN 60825
M8 plug according to IEC 947-5-2; 4-pin, with wire colour coding according to EN 50044.	5-pin terminal block, screw mounting
	5-pin terminal block, screw mounting
	5-pin terminal block, screw mounting
3200 m	1300 m 7 dB link budget, A = 3 dB/km, 3 dB reserve with OSV 052 BFOC, OSV 052-E BFOC,
12.5 dB link budget, A = 3 dB/km, 3 dB reserve with OEV 801-E 1200 m 6,5 dB link budget, A = 3 dB/km, 3 dB reserve with ORVC G1 BFOC, OEV 052 BFOC, OEV 052-E BFOC	OSVR 80M2-E BFOC 1200 m 6.5 dB link budget, A = 3 dB/km, 3 dB reserve with OSVC 01 BFOC
	1000 m 6 dB link budget, A = 3 dB/km, 3 dB reserve with OSVR 150M-PCl64
3300 m 14 dB link budget, A = 3.5 dB/km, 3 dB reserve with OEV 801-E 1400 m	1700 m 9 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSV 052 BFOC, OSV 052-E BFOC OSVR 80M2-E BFOC
8 dB link budget, A = 3.5 dB/km, 3 dB reserve with ORVC G1 BFOC, OEV 052 BFOC, OEV 052-E BFOC	1400 m 8 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVC 01 BFOC
+5 VDC or 8 15 VAC/VDC any polarity	24 VDC (15 26.4 VDC)
DC: 80 mA, AC: 140 mA	max. 200 mA
1.2 W	5.3 W
-20 °C to +50 °C	0 °C to +50 °C
00.00 +- 70.00	00 00 470 00
-20 °C to +70 °C	-20 °C to +70 °C
-20 °C to +70 °C 10% to 90%	-20 C to +/0 C < 95%
10% to 90%	< 95%
10% to 90% miniature in-line housing	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate
10% to 90% miniature in-line housing 25.4 mm x 25.4 mm x 76.2 mm (1" x 1" x 3")	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate 40 x 140 x 92 mm
10% to 90% miniature in-line housing	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate
10% to 90% miniature in-line housing 25.4 mm x 25.4 mm x 76.2 mm (1" x 1" x 3") 135 g	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate 40 x 140 x 92 mm 500 g
10% to 90% miniature in-line housing 25.4 mm x 25.4 mm x 76.2 mm (1" x 1" x 3") 135 g IP 40 contact discharge: 4 kV, air discharge: 8 kV	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate 40 x 140 x 92 mm 500 g IP 40 contact discharge: 4 kV, air discharge: 8 kV
10% to 90% miniature in-line housing 25.4 mm x 25.4 mm x 76.2 mm (1" x 1" x 3") 135 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz)	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate 40 x 140 x 92 mm 500 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz)
10% to 90% miniature in-line housing 25.4 mm x 25.4 mm x 76.2 mm (1" x 1" x 3") 135 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate 40 x 140 x 92 mm 500 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV
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10% to 90% miniature in-line housing 25.4 mm x 25.4 mm x 76.2 mm (1" x 1" x 3") 135 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate 40 x 140 x 92 mm 500 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV
miniature in-line housing 25.4 mm x 25.4 mm x 76.2 mm (1" x 1" x 3") 135 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV power line: 1 kV (line/line)	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate 40 x 140 x 92 mm 500 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV power line: 1 kV (line/line)
10% to 90% miniature in-line housing 25.4 mm x 25.4 mm x 76.2 mm (1" x 1" x 3") 135 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate 40 x 140 x 92 mm 500 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV
miniature in-line housing 25.4 mm x 25.4 mm x 76.2 mm (1" x 1" x 3") 135 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV power line: 1 kV (line/line)	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate 40 x 140 x 92 mm 500 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV power line: 1 kV (line/line)
miniature in-line housing 25.4 mm x 25.4 mm x 76.2 mm (1" x 1" x 3") 135 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV power line: 1 kV (line/line) EN 55022 limit class B	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate 40 x 140 x 92 mm 500 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV power line: 1 kV (line/line) EN 55022 limit class B
miniature in-line housing 25.4 mm x 25.4 mm x 76.2 mm (1" x 1" x 3") 135 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV power line: 1 kV (line/line) EN 55022 limit class B ready-to-connect transmitter, operating instructions	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate 40 x 140 x 92 mm 500 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV power line: 1 kV (line/line) EN 55022 limit class B ready-to-connect receiver, very-low voltage plug, operating instructions
miniature in-line housing 25.4 mm x 25.4 mm x 76.2 mm (1" x 1" x 3") 135 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV power line: 1 kV (line/line) EN 55022 limit class B ready-to-connect transmitter, operating instructions	< 95% Robust metal housing for mounting onto a DIN rail or a mounting plate 40 x 140 x 92 mm 500 g IP 40 contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV, data line: 1 kV power line: 1 kV (line/line) EN 55022 limit class B ready-to-connect receiver, very-low voltage plug, operating instructions

Video



Optical Isolation Amplifier

Product description		
Description	optical isolation amplifier 80 MHz	
Port type and quantity	1 x electrical in: BNC socket	
Torrypo and quantity	1 x electrical out: BNC socket	
Туре	OTV 80M2	
Order No.	943 214-001	
Electrical interface		
Signal type	composite (RGB with 3 x OTV 80M2)	
Input voltage	typ. 1 V _{pp} , max. 1.7 V _{pp}	
Input resistance	75 Ohm	
Output voltage	typ. 1 V _{pp} , max. 1.7 V _{pp}	
Output resistance	75 Ohm	
Pulse tilt (horiz. and vert.)	< 3%	
Differential amplification	< 5%	
Upper limiting frequency (-3 dB)	80 MHz	
Signal-to-noise ratio	< 55 dB unweighted	
Amplification	1	
Insulating voltage between earths	1.5 kV	
Insulation voltage to network	4 kV (IEC 601.1, protection class 2)	
More Interfaces	, , , , , , , , , , , , , , , , , , ,	
Power supply	non-heating appliance plug	
Displays	J opp water 5	
LED red	on: operating voltage present	
LED green	on: no video input signal	
Power requirements		
Operating voltage	230 VAC, +6%, -15%, 50-60 Hz	
Power consumption	6.5 W	
Heating-up time	5 min	
Ambient conditions		
Operating temperature	+10 °C to +40 °C	
Storage/transport temperature	-20 °C to +70 °C	
Relative humidity (non-condensing)	10% to 90%	
Mechanical construction		
Mounting	stand-alone unit	
Dimensions (W x H x D)	145 x 85 x 38 mm	
Weight	390 g	
Protection class	IP 20	
Housing material	ABS UL94V-0	
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV	
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)	
EN 61000-4-4 fast transients (burst)	power line: 2 kV, data line: 1 kV	
EN 61000-4-5 surge voltage	power line: 1 kV (line/line)	
EN 61000-4-6 conducted immunity	F	
EMC emitted immunity		
EN 55022	EN 55022 limit class B	
Scope of delivery and accessories		
Scope of delivery	optical isolation amplifier, mains cable, operating instructions	
,	4	

Video



Product description	
Description	RGB video transmitter 80 MHz; can be combined with the receiver OEV 801-E
Port type and quantity	5 x electrical: BNC sockets 3 x optical: BFOC 2.5 (ST®) sockets
Туре	OSVR 80M2-E BFOC
Order No.	933 799-021
Electrical interface	
Signal type	RGB (sync-in-green) or VGA (external synchronisation) switchable
Input voltage	700 mV (VESA-external synchronisation) or 1 V _{pp} (sync-in-green) C/H-Sync: 0,2 8 V _{pp} V-Sync :TTL level
Input resistance	75 Ohm/10 kOhm - switchable for all 5 inputs
PC slot	
Output voltage	
Output resistance	
Pulse tilt (horiz. and vert.) Differential amplification	< 10%
Upper limiting frequency (-3 dB)	80 MHz
Resolution	VESA standard: > 1020 x 768
Hesolution	visual: > 1280 x 1024
Optical interface	
Wavelength	860 nm
Launchable optical power in multi-mode fiber (MM) 50/125 Launchable optical power in multi-mode fiber (MM) 62.5/125	> 8 μW _{pp} , -21 dBm > 15 μW _{pp} , -18 dBm
Optical input power	> 13 µwpp, -16 dbiii
Laser protection class	1 according to DIN EN 60825
More Interfaces	1 doctraing to 2.11 2.11 coops
Power supply	plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs
Network size - length of cable	
Multimode fiber (MM) 50/125 μm	400 m 4.2 dB link budget, A = 3.0 dB/km, 3 dB reserve
Multimode fiber (MM) 62.5/125 μm	1100 m, from 640 m bandwidth degression 7 dB link budget, A = 3.5 dB/km, 3 dB reserve
Power requirements	
Operating voltage	8 24 V
Power consumption	12 W
Current consumption Ambient conditions	500 mA
Operating temperature	0 °C to +50 °C
Storage/transport temperature	-20 °C to +80 °C
Relative humidity (non-condensing)	10% to 90%
Mechanical construction	
Mounting	19" plug-in card
Dimensions (W x H x D)	45 (9 PU) x 128.5 (3 HU) x 185 mm
Weight	220 g
Protection class	
EMC interference immunity	
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV (in ART 84)
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz) (in ART 84)
EN 61000-4-4 fast transients (burst) EN 61000-4-5 surge voltage	power line: 2 kV, data line: 1 kV (in ART 84) power line: 1 kV data line (line/line) (in ART 84)
EN 61000-4-5 surge voltage EN 61000-4-6 conducted immunity	power line. I to data line (line/line) (lin ADI 04)
EMC emitted immunity	
EN 55022	EN 55022 limit class B (in ART 84)
Scope of delivery and accessories	
Scope of delivery	plug-in transmitter card, operating instructions
Accessories to order congretaly	10" cubrack ADT 94
Accessories to order separately	19" subrack ART 84





	RGB video transmitter 150 MHz;	RGB video transmitter 150 MHz;
	electrical output for the formation of star points or as a connection facility for a local	electrical output for the formation of star points or as a connection facility for a local
	monitor;	monitor;
	can be combined with the receiver	can be combined with the receivers
	OEVR 150M Sync	OEVR 150M FSMA, OEVR 150M Sync
	1 x electrical: Mini-DIN socket (VGA in)	1 x electrical: Mini-DIN socket (VGA in)
	1 x electrical: Nini-Bit Socket (VCA III) 1 x electrical: Sub-HD 15-pin, according to DIN 41652 (VGA off)	1 x electrical: Sub-HD 15-pin, according to DIN 41652 (VGA off)
	3 x optical: BFOC 2.5 (ST®) sockets	3 x optical: FSMA sockets
	A Spilotin Bi Go Zio (Gi) Godinio	o A option i on a cocioto
	OSVR 150M-PCI64 BFOC	OSVR 150M-PCI64 FSMA
	943 755-021	943 755-001
	RGB (sync-in-green) or	RGB (sync-in-green) or
i	VGA (external synchronisation)	VGA (external synchronisation)
	switchable	switchable
	700 mV (VESA-external synchronisation) or	700 mV (VESA-external synchronisation) or
	1 V _{pp} (sync-in-green)	1 V _{pp} (sync-in-green)
	C/H-Sync: > 1.5 V	C/H-Sync: > 1.5 V
	V-Sync > 1.5 V	V-Sync > 1.5 V
	PCI 32 or PCI 64	PCI 32 or PCI 64
	like input signal	like input signal
	< 10%	< 10%
	150 MHz	150 MHz
	VESA standard: > 1280 x 1024	VESA standard: > 1280 x 1024
	visual: > 1600 x 1200	visual: > 1600 x 1200
	860 nm	860 nm
	> 12 μW _{pp} , -19 dBm	> 12 μW _{pp} , -19 dBm
	> 24 µW _{pp} , -16 dBm	> 24 µW _{DD} , -16 dBm
		. [
	1 according to EN 60825	1 according to EN 60825
	PCI	PCI
	PCI	PCI
	330 m	330 m
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve
	330 m	330 m
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCl slot 3.1 W 625 mA 0 °C to +50 °C
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C
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	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90%	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90%
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	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% PCI card 18.5 x 121 x 151 mm 130 g contact discharge: 4 kV, air discharge: 8 kV (in PC housing) 10 V/m (80 - 1000 MHz) (in PC housing)	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% PCI card 18.5 x 121 x 151 mm 130 g contact discharge: 4 kV, air discharge: 8 kV (in PC housing) 10 V/m (80 - 1000 MHz) (in PC housing)
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% PCI card 18.5 x 121 x 151 mm 130 g contact discharge: 4 kV, air discharge: 8 kV (in PC housing) 10 V/m (80 - 1000 MHz) (in PC housing) data line: 1 kV (in PC housing) EN 55022 limit class B (in PC housing)	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% PCI card 18.5 x 121 x 151 mm 130 g contact discharge: 4 kV, air discharge: 8 kV (in PC housing) 10 V/m (80 - 1000 MHz) (in PC housing) data line: 1 kV (in PC housing) EN 55022 limit class B (in PC housing)
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% PCI card 18.5 x 121 x 151 mm 130 g contact discharge: 4 kV, air discharge: 8 kV (in PC housing) 10 V/m (80 - 1000 MHz) (in PC housing) data line: 1 kV (in PC housing) EN 55022 limit class B (in PC housing) PCI card transmitter,	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% PCI card 18.5 x 121 x 151 mm 130 g contact discharge: 4 kV, air discharge: 8 kV (in PC housing) 10 V/m (80 - 1000 MHz) (in PC housing) data line: 1 kV (in PC housing) EN 55022 limit class B (in PC housing) PCI card transmitter,
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% PCI card 18.5 x 121 x 151 mm 130 g contact discharge: 4 kV, air discharge: 8 kV (in PC housing) 10 V/m (80 - 1000 MHz) (in PC housing) data line: 1 kV (in PC housing) EN 55022 limit class B (in PC housing) PCI card transmitter, adapter cable 0.5 m for the connection of the video transmitter to the graphics card,	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 rW 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% PCI card 18.5 x 121 x 151 mm 130 g contact discharge: 4 kV, air discharge: 8 kV (in PC housing) 10 V/m (80 - 1000 MHz) (in PC housing) data line: 1 kV (in PC housing) EN 55022 limit class B (in PC housing) PCI card transmitter, adapter cable 0.5 m for the connection of the video transmitter to the graphics card,
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% PCI card 18.5 x 121 x 151 mm 130 g contact discharge: 4 kV, air discharge: 8 kV (in PC housing) 10 V/m (80 - 1000 MHz) (in PC housing) data line: 1 kV (in PC housing) EN 55022 limit class B (in PC housing) PCI card transmitter,	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% PCI card 18.5 x 121 x 151 mm 130 g contact discharge: 4 kV, air discharge: 8 kV (in PC housing) 10 V/m (80 - 1000 MHz) (in PC housing) data line: 1 kV (in PC housing) EN 55022 limit class B (in PC housing) PCI card transmitter,
	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 W 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% PCI card 18.5 x 121 x 151 mm 130 g contact discharge: 4 kV, air discharge: 8 kV (in PC housing) 10 V/m (80 - 1000 MHz) (in PC housing) data line: 1 kV (in PC housing) EN 55022 limit class B (in PC housing) PCI card transmitter, adapter cable 0.5 m for the connection of the video transmitter to the graphics card,	330 m 3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OEVR 150M F-SMA, OEVR 150M Sync 1100 m 6 dB link budget, A = 3.5 dB/km, 2 dB reserve 5 V from PCI slot 3.1 fw 625 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% PCI card 18.5 x 121 x 151 mm 130 g contact discharge: 4 kV, air discharge: 8 kV (in PC housing) 10 V/m (80 - 1000 MHz) (in PC housing) data line: 1 kV (in PC housing) EN 55022 limit class B (in PC housing) PCI card transmitter, adapter cable 0.5 m for the connection of the video transmitter to the graphics card,

Video



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Product description		1
Description	RGB video transmitter 150 MHz;	
	can be combined with the receiver OEVR 150M Sync BFOC	
Port type and quantity	2 x electrical: HD-Sub 15-pin, according to DIN 41652 3 x optical: BFOC 2.5 (ST®) sockets	
Туре	OSVR 150M BFOC	
Order No.	943 823-021	
Electrical interface		
Signal type	VGA (external synchronisation) or	
	RGB (sync-in-green); switchable	
Input voltage	700 mV _{pp} with VGA operating mode 1 V _{pp} with Sync-in-G operating mode	
Input resistance	75 Ohm / 10 kOhm switchable for all inputs	
PC slot		
Output voltage	like input signal	
Output resistance		
Pulse tilt (horiz. and vert.)		
Differential amplification	8 %	
Upper limiting frequency (-3 dB)	150 MHz (at fiber lengths < 400 m)	
Resolution	VESA standard: > 1280 x 1024 visual: > 1600 x 1200	
Optical interface		
Wavelength	860nm	
Launchable optical power in multi-mode fiber (MM) 50/125	> 12 μW _{pp} , -19 dBm	
Launchable optical power in multi-mode fiber (MM) 62.5/125	> 20 μW _{pp} , -17 dBm	
Optical input power		
Laser protection class	1 according to EN 60825	
More Interfaces		
Power supply	4-pin low voltage plug, M8 shape according to IEC 947-5-2	
Network size - length of cable		
Multimode fiber (MM) 50/125 µm	1000 m 6 dB link budget, A = 3.0 dB/km, 3 dB reserve	
Multimode fiber (MM) 62.5/125 µm	1400 m 8 dB link budget, A = 3.5 dB/km, 3 dB reserve	
Power requirements		
Operating voltage	5 VDC ±5%, ripple < 50 mV _{pp}	
Power consumption	3.5 W	
Current consumption	650 mA	
Ambient conditions		
Operating temperature	0 °C to +50 °C	
Storage/transport temperature	-20 °C to +80 °C	
Relative humidity (non-condensing)	10% to 90%	
Mechanical construction		
Mounting	stand-alone unit in an aluminium section housing	
Dimensions (W x H x D)	129 x 34.9 x 130.7 mm	
Weight	340 g	
Protection class		
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV	
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)	
EN 61000-4-4 fast transients (burst)	power line: 2 kV	
EN 61000-4-5 surge voltage	power line: 1 kV (line/line)	
EN 61000-4-6 conducted immunity		
EMC emitted immunity		
EN 55022	EN 55022 limit class B	
Scope of delivery and accessories		
Scope of delivery	ready-to-connect transmitter, plug-in power supply PSW 5-24, HD Sub connecting cable, operating instructions	
Accessories to order separately		



RGB video transmitter 150 MHz; can be combined with the receiver OEVR 150M Sync FSMA	
2 x electrical: HD-Sub 15-pin, according to DIN 41652 3 x optical: FSMA sockets	
OSVR 150M FSMA	
943 823-001	
943 023-001	
VGA (external synchronisation) or	
RGB (sync-in-green); switchable	
700 mV _{pp} with VGA operating mode 1 V _{pp} with Sync-in-G operating mode	
75 Ohm / 10 kOhm switchable for all inputs	
like innut signal	
like input signal	
0.0/	
8 %	
150 MHz (at fiber lengths < 400 m)	
VESA standard: > 1280 x 1024 visual: > 1600 x 1200	
860nm	
> 12 μW _{pp} , -19 dBm	
> 20 μW _{pp} , -17 dBm	
1 according to EN 60825	
4-pin low voltage plug, M8 shape according to IEC 947-5-2	
4000	
1000 m 6 dB link budget, A = 3.0 dB/km, 3 dB reserve	
1400 m 8 dB link budget, A = 3.5 dB/km, 3 dB reserve	
5 VDQ 50/ 1 1 50 V	
5 VDC ±5%, ripple < 50 mV _{pp}	
3.5 W	
650 mA	
0 °C to +50 °C	
-20 °C to +80 °C	
10% to 90%	
stand-alone unit in an aluminium section housing	
129 x 34.9 x 130.7 mm	
340 g	
contact discharge: 4 kV, air discharge: 8 kV	
10 V/m (80 - 1000 MHz)	
power line: 2 kV	
power line: 1 kV (line/line)	
EN 55022 limit class B	
ETT 00022 IIITII 01033 D	
ready-to-connect transmitter, plug-in power supply PSW 5-24, HD Sub connecting cable, operating instructions	

Video



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Product description		$\overline{}$
Description	RGB video receiver 80 MHz; can be combinied with the transmitters OSVR 80M2-E BFOC, OSVR 150M-PCl64, OSV 052 BFOC, OSV 052-E BFOC, OSVC 01 BFOC	
Port type and quantity	1 x optical: BFOC 2.5 (ST®) socket 1 x electrical: BNC socket	
Туре	OEV 801-E BFOC	
Order No.	933 798-021	
Electrical interface		
Signal type	composite	
Input voltage		
Input resistance		
PC slot		_
Output voltage	1 V _{pp} at 75 Ohm	
Output resistance	75 Ohm	_
Pulse tilt (horiz. and vert.)	< 3%	
Differential amplification	OO MI In (at file on langether a COO ms)	
Upper limiting frequency (-3 dB) Resolution	80 MHz (at fiber lengths < 600 m)	_
Optical interface		
Wavelength	860 nm	
Launchable optical power in multi-mode fiber (MM) 50/125	300 11111	
Launchable optical power in multi-mode fiber (MM) 62.5/125		
Optical input power	\geq 0.8 μ W _{pp} , -31 dBm with S/N > 45 dBw	
Laser protection class	z oto propp, or azin mar orty to azin	
More Interfaces		
Power supply	plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs	
Network size - length of cable		
Multimode fiber (MM) 50/125 μm	1000 m 6 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSVR 150M, OSVR 150M PCl64 400 m 4.2 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSVR 80M2-E BFOC	
Multimode fiber (MM) 62.5/125 μm	1400 m 8 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 150M, OSVR 150M PCI64 1100 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 80M2-E BFOC	
Power requirements		
Operating voltage	17.6 24 V	
Power consumption	3.8 W	
Current consumption	160 mA	_
Ambient conditions	0.00 +50.00	
Operating temperature	0 °C to +50 °C	_
Storage/transport temperature Relative humidity (non-condensing)	-20 °C to +80 °C 10% to 90%	
Mechanical construction	1076 to 9076	
Mounting	19" plug-in card	
Dimensions (W x H x D)	15 (3 PU) x 128.5 (3 HU) x 185 mm	
Weight	150 g	
Protection class		
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV (in ART 84)	
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz) (in ART 84)	
EN 61000-4-4 fast transients (burst)	power line: 2 kV	
EN 61000-4-5 surge voltage	power line: 1 kV (line/line) (in ART 84)	
EN 61000-4-6 conducted immunity		
EMC emitted immunity		
EN 55022	EN 55022 limit class B (in ART 84)	
Scope of delivery and accessories		
Scope of delivery	plug-in receiver card, ready-to-connect, operating instructions	
Accessories to order separately	19" subrack ART 84	



RGB visto monitored with the transmitters Cont broads: E FORM, COWN 190M-PDR4, ODN 190M 3 PSMA I' x worder (FSMA Code) I' x worder (FSMA Code) OEV 801-E FSMA So ST 85-001 Oorspoolite Oorspoolite 1 1/2, at 75 Other TS O		
can be combined with the transmittee Oxf 80 Mode F FSMA, Societ 1 x optical FSMA societ Oxf 90 x 196 x 101 Oxf 90 x 196 x	DOD side a secretary 00 MUse.	
OSYR BOMA-E FSMA GOVIT 150M-PCISA, COR 150M 3 FSMA 1 x optical FSMA societ 1 x executable BNO societe OFF 801-E FSMA 983 785-BOOT Composite 1 V _{Fp} at 75 Ohm 775 Ohm 775 Ohm 980 7m 980		
1 x optical FSMA accidet 1 x electrical: BNX societ 283 798-001 Composite Composite Composite 1 1 V _{ac} at 75 Chm 75 Chm 75 Chm 75 Chm 75 Chm 75 Chm 76 Chm 76 Chm 77 Chm 78 Chm 79 Chm 79 Chm 70	can be combinied with the transmitters	
1 x electrical: ENC socket OEV 801-E PSMA 933-78-001 composite composite 1 1 V _{ap} at 75 Chm 75 Chm 75 Chm 85 Chm 95	OSVR 80M2-E FSMA, OSVR 150M-PCI64, ODR 150M 3 FSMA	
1 x electrical: ENC socket OEV 801-E PSMA 933-78-001 composite composite 1 1 V _{ap} at 75 Chm 75 Chm 75 Chm 85 Chm 95		
1 x electrical: ENC socket OEV 801-E PSMA 933-78-001 composite composite 1 1 V _{ap} at 75 Chm 75 Chm 75 Chm 85 Chm 95		
OEV 801-E PSMA		
S33 789-001	1 x electrical: BNC socket	
S33 789-001		
Composite 1 V _{Pg} at 75 Ohm 75 Ohm 75 Ohm 75 Ohm 76 Ohm 880 mm 880 mm 880 mm 8 0.8 µW _{RD} -31 dBm with SN2 > 45 dBw 2 0.8 µW _{RD} -31 dBm with SN2 > 45 dBw plug connector according to DIN EN 80603-2; pin 1; ground, pin 32: +V ₅ plug connector according to DIN EN 80603-2; pin 1; ground, pin 32: +V ₅ 900 m 6 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSVR 150M -, OSVR 150M POIGH 400 m 42 Plug budget, A = 3.0 dB/km, 3 dB reserve with OSVR 80802 E BPOC 1400 m 7 DB link budget, A = 3.6 dB/km, 3 dB reserve with OSVR 150M - A = 3.6 dB/km, 3 dB	OEV 801-E FSMA	
Composite 1 V _{Pg} at 75 Ohm 75 Ohm 75 Ohm 75 Ohm 76 Ohm 880 mm 880 mm 880 mm 8 0.8 µW _{RD} -31 dBm with SN2 > 45 dBw 2 0.8 µW _{RD} -31 dBm with SN2 > 45 dBw plug connector according to DIN EN 80603-2; pin 1; ground, pin 32: +V ₅ plug connector according to DIN EN 80603-2; pin 1; ground, pin 32: +V ₅ 900 m 6 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSVR 150M -, OSVR 150M POIGH 400 m 42 Plug budget, A = 3.0 dB/km, 3 dB reserve with OSVR 80802 E BPOC 1400 m 7 DB link budget, A = 3.6 dB/km, 3 dB reserve with OSVR 150M - A = 3.6 dB/km, 3 dB	933 798-001	
1 V ₁₀ at 75 Ohm 75 Ohm 75 Ohm 80 MHz (at fiber lengths < 600 m) 880 nm 880 nm 880 nm 2 0.8 µW ₁₀ 31 dBm with S/N > 45 dBw plug connector according to DN EN 60003-2; pin 1: ground, pin 32: +V ₄ plug connector according to DN EN 60003-2; pin 1: ground, pin 32: +V ₄ 1000 m 6 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 40 m 42 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 4100 m 7 dB link budget, A. = 3.5 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.5 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.5 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.5 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB re	332 733 901	
1 V ₁₀ at 75 Ohm 75 Ohm 75 Ohm 80 MHz (at fiber lengths < 600 m) 880 nm 880 nm 880 nm 2 0.8 µW ₁₀ 31 dBm with S/N > 45 dBw plug connector according to DN EN 60003-2; pin 1: ground, pin 32: +V ₄ plug connector according to DN EN 60003-2; pin 1: ground, pin 32: +V ₄ 1000 m 6 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 40 m 42 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 4100 m 7 dB link budget, A. = 3.5 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.5 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.5 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.5 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M, CS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.6 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB reserve with OS/N 150M POIGH 1100 m 7 dB link budget, A. = 3.0 dBAm. 3 dB re		
75 Ohm	composite	
75 Ohm		
75 Ohm	1 V _{pp} at 75 Ohm	
80 MHz (at fiber lengths < 600 m) 880 nm 880 nm \$ 0.8 pWgp, -31 dBm with S/N > 45 dBw plug connector according to DIN EN 80603-2; pin 1; ground, pin 32; +V ₉ 1000 m 6 dB ink budget, A = 3.0 dB/km, 3 dB reserve with 00 m 42 dB link budget, A = 3.0 dB/km, 3 dB reserve with 05W 80M/2 EBrOC 1400 m 40 dB link budget, A = 3.0 dB/km, 3 dB reserve with 05W 80M/2 EBrOC 1400 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with 05W 80M/2 EBrOC 1400 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with 05W 80M/2 EBrOC 1400 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with 05W 80M/2 EBrOC 100 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with 05W 80M/2 EBrOC 17.6 24 V 3.8 W 160 nA 1	75 Ohm	
80 MHz (at fiber lengths < 600 m) 880 nm 880 nm \$ 0.8 pW _{figs} -31 dBm with S/N > 45 dBw		
860 nm a 0.8 μW _{CP} 31 dBm with S/N > 45 dBw plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +V ₆ 1000 m 6 dB link budget, A = 3.0 dB/m, 3 dB reserve with OSVR 150M P,OB4 42 dB ink budget, B = 3.0 dB/m, 3 dB reserve with OSVR 150M - 3.0 dB/m, 3 dB reserve with OSVR 150M - 3.0 dB/m, 3 dB reserve with OSVR 150M - 3.5 dB/m, 3 dB reserve with	370	
860 nm a 0.8 μW _{CP} 31 dBm with S/N > 45 dBw plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +V ₆ 1000 m 6 dB link budget, A = 3.0 dB/m, 3 dB reserve with OSVR 150M P,OB4 42 dB ink budget, B = 3.0 dB/m, 3 dB reserve with OSVR 150M - 3.0 dB/m, 3 dB reserve with OSVR 150M - 3.0 dB/m, 3 dB reserve with OSVR 150M - 3.5 dB/m, 3 dB reserve with		
860 nm a 0.8 µW _{Sp} 31 dBm with S/N > 45 dBw plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +V ₅ 1000 m 6 dB link budget, A = 3.0 dB/m, 3 dB reserve with OSVR 150M, OSVR 150M PDI64 4.2 m 4.2 m 4.2 m 4.3 m 4.4 m 4.5 m	80 MHz (at fiber lengths < 600 m)	
≥ 0.8 µW _{pp.} 31 dBm with S/N > 45 dBw plug connector according to DIN EN 80803-2; pin 1; ground, pin 32; +V ₆ 1000 m 6 dB link budget, A = 3.0 dB/km, 3 dB reserve with S/S bink, OSVR 150M PCI64 400 m 4.2 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSVR 80M2-E BFOC 1400 m 8 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 150M, OSVR 150M PCI64 1100 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 150M S/S 150M PCI64 1100 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 150M S/S 150M PCI64 1100 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 150M S/S 150M PCI64 1100 m 1100	•	
≥ 0.8 µW _{pp.} 31 dBm with S/N > 45 dBw plug connector according to DIN EN 80803-2; pin 1; ground, pin 32; +V ₆ 1000 m 6 dB link budget, A = 3.0 dB/km, 3 dB reserve with S/S bink, OSVR 150M PCI64 400 m 4.2 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSVR 80M2-E BFOC 1400 m 8 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 150M, OSVR 150M PCI64 1100 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 150M S/S 150M PCI64 1100 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 150M S/S 150M PCI64 1100 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 150M S/S 150M PCI64 1100 m 1100		
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400 m 4. 2 Bl link budget, A = 3.0 dB/km, 3 dB reserve with OSVR 80M2-E BFOC 1400 m 8 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 150M, OSVR 150M PCI64 1100 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 80M2-E BFOC 17.6 24 V 3.8 W 160 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% 19° plug-in card 15 (3 PU) x 128.5 (3 HU) x 185 mm 150 g contact discharge: 4 kV, air discharge: 8 kV (in ART 84) power line: 2 kV power line: 1 kV (line/line) (in ART 84) EN 55022 limit class B (in ART 84) Plug-in receiver card, ready-to-connect, operating instructions	with OSVP 150M OSVP 150M PCI64	
4.2 d8 link budget, A = 3.0 dB/km, 3 dB reserve with OSVR 80M2-E BFOC 1400 m 8 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 150M, OSVR 150M PCi64 1100 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 80M2-E BFOC 17.6 24 V 3.8 W 160 mA 0 °C to +50 °C 2-20 °C to +80 °C 10% to 90% 19° plug-in card 15 (3 PU) x 128.5 (3 HU) x 185 mm 150 g contact discharge: 4 kV, air discharge: 8 kV (in ART 84) power line: 2 kV power line: 2 kV power line: 2 kV (ine/line) (in ART 84) EN 55022 limit class B (in ART 84) plug-in receiver card, ready-to-connect, operating instructions		
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8 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 150M, OSVR 150M PCI64 1100 m 7 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSVR 80M2-E BFOC 17.6 24 V 3.8 W 160 mA 0 °C to +50 °C -20 °C to +80 °C 10% to 90% 19° plug-in card 15 (3 PU) x 128.5 (3 HU) x 185 mm 150 g contact discharge: 4 kV, air discharge: 8 kV (in ART 84) 10 V/m (80 - 1000 MHz) (in ART 84) power line: 2 kV power line: 1 kV (line/line) (in ART 84) EN 55022 limit class B (in ART 84) plug-in receiver card, ready-to-connect, operating instructions	with OSVR 80M2-E BFOC	
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19" plug-in card 15 (3 PU) x 128.5 (3 HU) x 185 mm 15 (3 PU) x 128.5 (3 HU) x 185 mm 150 g contact discharge: 4 kV, air discharge: 8 kV (in ART 84) 10 V/m (80 - 1000 MHz) (in ART 84) power line: 2 kV power line: 1 kV (line/line) (in ART 84) EN 55022 limit class B (in ART 84) plug-in receiver card, ready-to-connect, operating instructions		
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150 g contact discharge: 4 kV, air discharge: 8 kV (in ART 84) 10 V/m (80 - 1000 MHz) (in ART 84) power line: 2 kV power line: 1 kV (line/line) (in ART 84) EN 55022 limit class B (in ART 84) plug-in receiver card, ready-to-connect, operating instructions		
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contact discharge: 4 kV, air discharge: 8 kV (in ART 84) 10 V/m (80 - 1000 MHz) (in ART 84) power line: 2 kV power line: 1 kV (line/line) (in ART 84) EN 55022 limit class B (in ART 84) plug-in receiver card, ready-to-connect, operating instructions	150 g	
10 V/m (80 - 1000 MHz) (in ART 84) power line: 2 kV power line: 1 kV (line/line) (in ART 84) EN 55022 limit class B (in ART 84) plug-in receiver card, ready-to-connect, operating instructions		
10 V/m (80 - 1000 MHz) (in ART 84) power line: 2 kV power line: 1 kV (line/line) (in ART 84) EN 55022 limit class B (in ART 84) plug-in receiver card, ready-to-connect, operating instructions		
10 V/m (80 - 1000 MHz) (in ART 84) power line: 2 kV power line: 1 kV (line/line) (in ART 84) EN 55022 limit class B (in ART 84) plug-in receiver card, ready-to-connect, operating instructions		
power line: 2 kV power line: 1 kV (line/line) (in ART 84) EN 55022 limit class B (in ART 84) plug-in receiver card, ready-to-connect, operating instructions		
power line: 2 kV power line: 1 kV (line/line) (in ART 84) EN 55022 limit class B (in ART 84) plug-in receiver card, ready-to-connect, operating instructions		
power line: 1 kV (line/line) (in ART 84) EN 55022 limit class B (in ART 84) plug-in receiver card, ready-to-connect, operating instructions		
EN 55022 limit class B (in ART 84) plug-in receiver card, ready-to-connect, operating instructions		
plug-in receiver card, ready-to-connect, operating instructions	power line: 1 kV (line/line) (in ART 84)	
plug-in receiver card, ready-to-connect, operating instructions		
plug-in receiver card, ready-to-connect, operating instructions		
plug-in receiver card, ready-to-connect, operating instructions		
	EN 55022 limit class B (in ART 84)	
	nlug in receiver card ready to connect operating instructions	
19" subrack ART 84		
	19" subrack ART 84	

Video



Product description	
Description	RGB video receiver 150 MHz; can be combinied with the transmitters OSVR 150M-PCI64, OSVR 80M2-E, OSVR 150M Sync, ODR 150M 3 FSMA
Port type and quantity	3 x optical: FSMA sockets 3 x electrical: BNC sockets
Туре	OEVR 150M FSMA
Order No.	934 016-001
Electrical interface	
Signal type	RGB (Sync in R, G und B)
Input voltage	
Input resistance	
PC slot	1 \/ at 75 Ohm
Output voltage	1 V _{pp} at 75 Ohm
Output resistance	75 Ohm
Pulse tilt (horiz. and vert.)	5%
Differential amplification	8%
Upper limiting frequency (-3 dB)	150 MHz (at fiber lengths < 400 m)
Resolution	VESA standard: > 1280 x 1024 visual: > 1600 x 1200
Optical interface	
Wavelength	860 nm
Launchable optical power in multi-mode fiber (MM) 50/125	
Launchable optical power in multi-mode fiber (MM) 62.5/125	
Optical input power	\geq 6 µW _{pp} , -22 dBm with S/N > 46 dBw
Laser protection class	
More Interfaces	
Power supply	3-pin low voltage plug, M8 shape according to IEC 947-5-2
Network size - length of cable	
Multimode fiber (MM) 62.5/125 μm	3 dB link budget, A = 3.0 dB/km, 2 dB reserve with OSVR 150M, OSVR 150M-PCI64, ODR 150M3 FSMA 660 m 4 dB link budget, A = 3.0 dB/km, 2 dB reserve with OSVR 80M2-E FSMA 800 m 5 dB link budget, A = 3.5 dB/km, 2 dB reserve with OSVR 150M, OSVR 150M-PCI64, ODR 150M3 FSMA 1100 m
	6 dB link budget, A = 3.5 dB/km, 2 dB reserve with OSVR 80M2-E FSMA
Power requirements Operating voltage	12 VDC, ripple < 100 mV _{DD}
Power consumption	3.5 W
Current consumption	280 mA
Ambient conditions	
Operating temperature	0 °C to +50 °C
Storage/transport temperature	-20 °C to +80 °C
Relative humidity (non-condensing)	10% to 90%
Mechanical construction	
Mounting	stand-alone unit in an aluminium section housing
Dimensions (W x H x D)	129 x 34,9 x 130.7 mm
Weight	420 g
Protection class	
EMC interference immunity	
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)
EN 61000-4-4 fast transients (burst)	power line: 2 kV
EN 61000-4-5 surge voltage	power line: 1 kV (line/line)
ENG comitted immunity	
EMC emitted immunity EN 55022	EN 55000 limit along D
Scope of delivery and accessories	EN 55022 limit class B
Scope of delivery	ready-to-connect receiver, plug-in power supply PSW 12-12, operating instructions





RGB video receiver 150 MHz;	RGB video receiver 150 MHz;
	· ·
can be combinied with the transmitters	can be combinied with the transmitters
OSVR 150M-PCI64, OSVR 80M2-E, OSVR 150M Sync	OSVR 150M-PCI64, OSVR 80M2-E, OSVR 150M Sync, ODR 150M 3 FSMA
3 x optical: BFOC 2.5 (ST®) sockets	3 x optical: FSMA sockets
1 x electrical: HD-Sub 15-pin, according to DIN 41652	1 x electrical: HD-Sub 15-pin, according to DIN 41652
1 X electrical. Tib-oub 13-pin, according to bin 41032	1 X electrical. Tib-3ub 13-pin, according to bin 41032
OEVR 150M Sync BFOC	OEVR 150M Sync FSMA
934 016-521	934 016-501
RGB, VGA	RGB, VGA
1 V _{pp} at 75 Ohm with Sync-in-G operating mode	1 V _{pp} at 75 Ohm with Sync-in-G operating mode
0.7 V _{pp} at 75 Ohm with VGA operating mode	0.7 V _{pp} at 75 Ohm with VGA operating mode
0.7 Vpp at 73 Offin with VGA operating mode	0.7 Vpp at 75 Offin with VGA operating mode
75 Ohm	75 Ohm
5%	5%
	8%
8%	
150 MHz (at fiber lengths < 400 m)	150 MHz (at fiber lengths < 400 m)
VESA standard: > 1280 x 1024	VESA standard: > 1280 x 1024
visual: > 1600 x 1200	visual: > 1600 x 1200
Visual. > 1000 x 1200	VISUAL. > 1000 X 1200
860 nm	860 nm
\geq 3 μ W _{pp} , -25 dBm with S/N > 46 dBw	\geq 3 μ W _{pp} , -25 dBm with S/N > 46 dBw
≥ 0 μγγββ, -23 αΒ/π with 0/14 > 40 αΒ/ν	2 ο μννρβ, -2ο delit with στιν > 4ο dew
4-pin low voltage plug, M8 shape according to IEC 947-5-2	4-pin low voltage plug, M8 shape according to IEC 947-5-2
4-pin low voltage plug, ivio shape according to 120 347-3-2	4-pin low voltage plug, two shape according to 120 347-3-2
1000 m	1000 m
6 dB link budget, A = 3.0 dB/km, 3 dB reserve	6 dB link budget, A = 3.0 dB/km, 3 dB reserve
with OSVR 150M, OSVR 150M-PCI64, ODR 150M3 FSMA	
· · · · · · · · · · · · · · · · · · ·	with OSVR 150M, OSVR 150M-PCI64, ODR 150M3 FSMA
400 m	400 m
4.2 dB link budget, A = 3.0 dB/km, 3 dB reserve	4.2 dB link budget, A = 3.0 dB/km, 3 dB reserve
with OSVR 80M2-E FSMA	with OSVR 80M2-E FSMA
1400 m	1400 m
8 dB link budget, A = 3.5 dB/km, 3 dB reserve	8 dB link budget, A = 3.5 dB/km, 3 dB reserve
with OSVR 150M, OSVR 150M-PCI64, ODR 150M3 FSMA	with OSVR 150M, OSVR 150M-PCI64, ODR 150M3 FSMA
1100 m	1100 m
7 dB link budget, A = 3.5 dB/km, 3 dB reserve	7 dB link budget, A = 3.5 dB/km, 3 dB reserve
with OSVR 80M2-E FSMA	with OSVR 80M2-E FSMA
12 VDC, ripple < 50 mV _{DD}	12 VDC, ripple < 50 mV _{pp}
6.5 W	6.5 W
1.3 A	1.3 A
1.3 A	1.3 A
0 °C to +50 °C	0 °C to +50 °C
0 °C to +50 °C	0 °C to +50 °C
0 °C to +50 °C -20 °C to +80 °C	0 °C to +50 °C -20 °C to +80 °C
0 °C to +50 °C -20 °C to +80 °C 10% to 90%	0 °C to +50 °C -20 °C to +80 °C 10% to 90%
0 °C to +50 °C -20 °C to +80 °C	0 °C to +50 °C -20 °C to +80 °C
0 °C to +50 °C -20 °C to +80 °C 10% to 90%	0 °C to +50 °C -20 °C to +80 °C 10% to 90%
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz)	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz)
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz)	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz)
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV power line: 1 kV (line/line)	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV power line: 1 kV (line/line)
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV power line: 1 kV (line/line)	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV power line: 1 kV (line/line)
0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV power line: 1 kV (line/line)	0 °C to +50 °C -20 °C to +80 °C 10% to 90% stand-alone unit in an aluminium section housing 129 x 34.9 x 130.7 mm 365 g contact discharge: 4 kV, air discharge: 8 kV 10 V/m (80 - 1000 MHz) power line: 2 kV power line: 1 kV (line/line)

Video



Optical Video Distributor RGB

Product description		
Description	active optical star coupler; can be combined with the transmitters OSVR 150M-PCI64, OSVR 80M2-E, OSVR 150M FSMA and the receivers OEVR 150M, OEV 801-E	
Port type and quantity	1 x optical in: 3 FSMA sockets (R,G,B) 3 x optical out: 3 x 3 FSMA sockets (R,G,B)	
Туре	ODR 150 M 3 FSMA	
Order No.	943 692-001	
Optical interfaces		
Wavelength	860 nm	
Optical input power	max. 6 μ W _{pp} , -22 dBm with S/N > 46 dBw	
Overload limit	min. 50 μW _{pp} , -13 dBm	
Launchable optical power in multi-mode fiber (MM) 50/125	> 12 μW _{pp} , -18 dBm	
Launchable optical power in multi-mode fiber (MM) 62.5/125	> 20 μW _{pp} , -19 dBm	
Laser protection class	1 according to EN 60825	
More Interfaces		
Power supply	3-pin low voltage plug, M8 shape according to IEC 947-5-2	
System bandwidth		
System bandwidth -3 dB	140 MHz for OSVR 150M-PCI64 FSMA - ODR 150 M 3 FSMA - OEVR 150M	
Power requirements		
Operating voltage	12 VDC, ripple < 100 mV _{pp}	
Power consumption	10.2 W	
Current consumption	850 mA	
Ambient conditions		
Operating temperature	0 °C to +40 °C	
Storage/transport temperature	-20 °C to +80 °C	
Relative humidity (non-condensing)	10% to 90%	
Mechanical construction		
Mounting	stand-alone unit in an aluminium section housing	
Dimensions (W x H x D)	140 x 57 x 129 mm	
Weight	630 g	
EMC interference immunity		
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV	
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)	
EN 61000-4-4 fast transients (burst)	power line: 2 kV	
EN 61000-4-5 surge voltage	power line: 1 kV (line/line)	
EN 61000-4-6 conducted immunity		
EMC emitted immunity		
EN 55022	EN 55022 limit class B	
Scope of delivery and accessories		
Scope of delivery	ready-to-connect star coupler, plug-in power supply PSW 12-12, optical RGB connecting cable F-SMA 2 m, operating instructions	

Listen-in on what's coming in.

No distortion, no hum: crystal-clear audio signals.





Speech and music are transmitted digitally over large distances via fiber optic cables, since analog signals require high levels of linearity and freedom from distortion. Audio FiberINTERFACES exclude humming and ground loops from sound signals. In addition, optical transmission technology is very secure and impervious to electromagnetic noise, providing electrical insulation between the transmitter and the receiver.

Different models of Hirschmann's transmitters and receivers can be combined together without any problems. This may be done wherever you want, for example to control active speaker boxes in sound studios, auditoriums and stadiums, or to transmit measurement and intercom signals without any RF/EMI interference, e.g. in high-tech medical equipment, such as computer tomographs.

In stadium sound systems, the cables can be laid parallel to the mains or high-voltage cables, and the auditory experience is not affected by lighting that may be connected.

Hirschmann Audio FiberINTERFACES ensure interference-free transmission of sound signals over many kilometers, with a harmonic distortion level of less than 0.1 % and linear distortion of less than 0.5 dBm.









Audio



Multimode Audio Transmission System

	**	
Product description		
Description	audio transmitter 10 Hz to 30 kHz;	
	can be combined with the receiver OEA 204-E	
	OB (201 E	
Port type and quantity	1 x electrical: BNC socket	
	1 x optical: FSMA socket	
Tyne	OSA 205-E	
Type Order No.	943 075-003	
Electrical interface	0.000	
Signal type	Audio	
Input voltage	0 dBm = 0.775 V _{eff} , max. 9 dBm = 2.3 V _{eff}	
pat voltago	asymmetrical	
Input resistance	75 Ohm	
Output voltage		
Admissible load resistance at the output		
Linear distortion (30 Hz to 20 kHz)	≤ 0.5 dB	
Distorsion factor (at 0 dBm/1kHz)	≤ 0.1%	
Unweighted signal-to-noise-ratio (relative 0 dBm)	> 73 dB	
Noise voltage ratio (relative 0 dBm)	> 67 dB	
Bandwidth (-3 dB)	10 Hz to 30 kHz	
Audio interface	asymmetrical	
Optical interface		
Wavelength	860 nm	
Launchable optical power in multi-mode fiber (MM) 50/125	> 25 μW _{ss} , -16 dBm	
Launchable optical power in multi-mode fiber (MM) 62.5/125	> 40 μW _{ss} , -14 dBm	
Launchable optical power in multi-mode fiber (MM) HCS 200/230	> 80 µW _{ss} , -11 dBm	
Optical input power		
Laser protection class	1	
More Interfaces		
Power supply	plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +V _S	
Network size - length of cable		
Multimode fiber (MM) 50/125 μm	2600 m	
	11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OEA 204-E	
	WIGHT OLD LEGT L	
Multimode fiber (MM) 62.5/125 μm	2800 m	
	13 dB link budget, A = 3.5 dB/km, 3 dB reserve	
	with OEA 204-E	
Multimode fiber HCS (MM) 200/230 μm	1500 m	
	16 dB link budget, A = 8.0 dB/km, 3 dB reserve	
	with OEA 204-E	
Power requirements		
Power requirements Operating voltage	14.5 24 V	
Operating voltage	14.5 24 V 60 mA	
Current consumption		
Power consumption	0.1 W	
Displays LED red	operating voltage	
	operating voltage	
LED green	audio input signal	
Ambient conditions	0 °C to .50 °C	
Operating temperature	0 °C to +50 °C -20 °C to +80 °C	
Storage/transport temperature Relative humidity (non-condensing)		
Mechanical construction	10% to 90%	
Mechanical construction Mounting	19" plug-in card	
Dimensions (W x H x D)		
Weight	15 (3 PU) x 128.5 (3 HU) x 185 mm 150 g	
EMC interference immunity	100 g	
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV	
EN 61000-4-2 electrostatic discharge (ESD) EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)	
EN 61000-4-3 electromagnetic field EN 61000-4-4 fast transients (burst)	power line: 2 kV, data line: 1 kV	
EN 61000-4-4 fast transients (burst) EN 61000-4-5 surge voltage	power line: 2 kV, data line: 1 kV power line: 1 kV (line/line)	
EN 61000-4-5 surge voltage EN 61000-4-6 conducted immunity	10 V	
EMC emitted immunity	10 V	
EN 55022	EN 55022 limit class B	
Scope of delivery and accessories	LIT GOOZZ IIIIIL GIGGS D	
Scope of delivery and accessories Scope of delivery	plug-in transmitter card, operating instructions	
Accessories to order separately	19" subrack ART 84	
7.000000100 to order deparately	10 Subrusit All II OT	



audic receiver for Nt to 50 Nt to combined with the transmitter OSA 205-E 1 ** telepticals* BNC socket 1 ** copticals* ESMA socket OEA 204-E 940 973-003 Audic 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 KOhm > 2 KOhm > 3 OBB ** copticals* ESMA socket 0 dBm = 0.775 V _{eff} at 600 Ohm > 3 KOhm > 4 OBB ** copticals* ESMA socket 0 dBm = 0.775 V _{eff} at 600 Ohm > 3 KOhm > 4 OBB ** copticals* ESMA socket 0 dBm = 0.775 V _{eff} at 600 Ohm > 5 KOhm > 70 dB ** copticals* ESMA socket 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 KOhm > 70 dB ** copticals* ESMA socket 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 OBB ** copticals* ESMA socket 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 OBB ** copticals* ESMA socket 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 OBB ** copticals* ESMA socket 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 OBB ** copticals* ESMA socket 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 OBB ** copticals* ESMA socket 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 OBB ** copticals* ESMA socket 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 OBB ** copticals* ESMA socket 0 dBm = 0.775 V _{eff} at 600 Ohm 2 OBB 2 OBB 2 OBB 2 OBB 3 OBB 3 OBB 4 OBB 4 OBB 4 OBB 5 OBB
can be combined with the transmitter OSA 205-E 1 ** electrical BNO socket 1 ** topical : SNA socket 943 073-003 Audio OBm = 0.775 V _{et} at 600 Ohm 2 ** 2 K Ohm 3 ** 5 G B 4 ** 5 G B 5 G B 7 G B 7 G B
1 x electrical: BNC socket 1 x optical: FSMA
1 x electrical: BNG socket 1 x optical: FSMA socket 943 073-003 Audio Audio 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 k Ohm > 2 k Ohm > 3 5 dB = 0.1% > 37 38B > 67 dB 3 10 fet to 30 kHz asymmetrical 880 nm 200 m 1 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 200 m 1 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 150 m 1 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V
1 x optical: FSMA socket OEA 284-E 993 073-003 Audio Audio 0 dBm = 0.775 V _{eff} at 800 Ohm > 2 k Ohm > 0.5 dB = 0.1% > 73 dB > 67 dB 10 Hz to 30 kHz asymmetrical 880 mm 800 m plug connector according to DIN EN 80803-2; pin 1: ground, pin 32: +Vs 2800 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 1500 m 15 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 1500 m 150 m 150 m 150 m 151 m 152 m 153 m 154 m 154 m 155 m 155 m 155 m 155 m 155 m 156 m 157 m 1
1 x optical: FSMA socket OEA 284-E 993 073-003 Audio Audio 0 dBm = 0.775 V _{eff} at 800 Ohm > 2 k Ohm > 0.5 dB = 0.1% > 73 dB > 67 dB 10 Hz to 30 kHz asymmetrical 880 mm 800 m plug connector according to DIN EN 80803-2; pin 1: ground, pin 32: +Vs 2800 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 1500 m 15 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 1500 m 150 m 150 m 150 m 151 m 152 m 153 m 154 m 154 m 155 m 155 m 155 m 155 m 155 m 156 m 157 m 1
OEA 204-E 943 073-003 Audio Audio O dBm = 0.775 V _{eff} at 800 Ohm > 2 k Ohm s 0.3 dB s 0.1% > 73 dB > 5.7 dB 10 kz to 30 kkz asymmetrical asymmetrical 880 nm \$2.0 µW _{pp} -27 dBm plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs plug dosnector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 11 dB link budget, A = 3.5 dB/km, 3 dB reserve with 05A 205-E 1500 m 15 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with 05A 205-E 1700 m 1700
943 073-003 Audio 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 kOhm 0.3 dB
943 073-003 Audio 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 kOhm 0.3 dB
943 073-033 Audio 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 kOhm 0 dBm = 0.775 V _{eff} at 600 Ohm 2 d dBm 0.775 V _{eff} at 600 Ohm 2 d dBm 0.775 V _{eff} at 600 Ohm 3 d dBm 0.775 V _{eff} at 600 Ohm 4 d dBm 0.775 V _{eff} at 600 Ohm 5 d dBm 0.775 V _{eff} at 600 Ohm 6 d dBm 0.775 V _{eff} at 600 Ohm 7 d dBm 0.775 V _{eff} at 600 Ohm 8 d dBm 0.775 V _{eff} at 600 Ohm 8 d dBm 0.775 V _{eff} at 600 Ohm 9 d dBm 0.775 V _{eff} at 600 Ohm 1 d dBm 0.775 V _{eff} at 600 Ohm 1 d dBm 0.775 V _{eff} at 600 Ohm 1 d dBm 0.775 V _{eff} at 600 Ohm 1 d dBm 0.775 V _{eff} at 600 Ohm 1 d dBm 0.775 V _{eff} at 600 Ohm 1 d dBm 0.775 V _{eff} at 600 Ohm 1 d dBm 0.775 V _{eff} at 600 Ohm 1 d dBm 0.775 V _{eff} at 600 Ohm 1 d dBm 0.775 V _{eff} at 600 Ohm 0 d d d d d d d d d d d d d d d d d d
Audio 0 dBm = 0.775 V _{eff} at 600 Ohm > 2 kOhm > 0.5 dB < 0.1% > 73 dB > 67 dB 10 Hz to 30 kHz asymmetrical 860 nm 860 nm 9 lug connector according to DIN EN 60003-2; pin 1; ground, pin 32: +Vs 2500 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 1500 m 1 dS link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 145 24 V 40 mA 0.1 W operating voltage optical injust signal 0 °C to +50 °C -20°C to +50 °C
0 dBm = 0.775 V _{eff} at 600 Ohm > 2 kOhm = 0.5 dB \$ 0.1% > 73 dB > 67 dB 10 Hz to 30 kHz asymmetrical 880 nm 880 nm 22.0 µW _{pp} , -27 dBm plug connector according to DIN EN 60603-2; pin 1; ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 150 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 15.0 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 15.0 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 15.0 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 15.0 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 16.0 m 17.0 m 18.0 m 19.0 m
0 dBm = 0.775 V _{eff} at 600 Ohm > 2 kOhm = 0.5 dB \$ 0.1% > 73 dB > 67 dB 10 Hz to 30 kHz asymmetrical 880 nm 880 nm 22.0 µW _{pp} , -27 dBm plug connector according to DIN EN 60603-2; pin 1; ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 150 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 15.0 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 15.0 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 15.0 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 15.0 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 16.0 m 17.0 m 18.0 m 19.0 m
2 KOhm
2 KOhm
2 k 0 km 5
2 KOhm
2 KOhm
2 k 0 km 5
\$ 0.5 dB \$ 0.1% \$ 10 Hz to 30 kHz \$ 2.0 µW _{pp} -27 dBm \$ 2.0 µW _{pp} -27
\$ 0.1% > 73 dB > 67 dB 10 Hz to 30 kHz 889 mmetrical 880 nm
\$ 0.1% > 73 dB > 67 dB 10 Hz to 30 kHz 889 mmetrical 880 nm
> 73 dB > 67 dB 10 Hz to 30 kHz asymmetrical 880 nm 880 nm ≥ 2.0 µW _{pp} , -27 dBm plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs ≥ 800 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with 0SA 205-€ 2800 m 13 dB link budget, A = 9.5 dB/km, 3 dB reserve with 0SA 205-€ 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with 0SA 205-€ 14.5 24 V 40 mA 0.1 W operating voltage optical input signel 0 °C to +50 °C -20 °C to +50 °C -20 °C to +50 °C
> 67 dB 10 Hz to 30 kHz asymmetrical 860 nm 860 nm ≥ 2.0 μW _{pp.} -27 dBm plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 1500 m 10 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 10 dB link budget,
10 Hz to 30 kHz asymmetrical 860 nm ≥ 2.0 μW _{pp} , -27 dBm ≥ 2.0 μW _{pp} , -27 dBm plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
10 Hz to 30 kHz asymmetrical 860 nm ≥ 2.0 μW _{pp} , -27 dBm ≥ 2.0 μW _{pp} , -27 dBm plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
asymmetrical 860 nm 2.0 µWpp, -27 dBm plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +50 °C
860 nm ≥ 2.0 μW _{pp} 27 dBm ≥ 2.0 μW _{pp} 27 dBm plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
≥ 2.0 µW _{pp} , -27 dBm plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal
≥ 2.0 µW _{pp} , -27 dBm plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal
≥ 2.0 µW _{pp} , -27 dBm plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal
plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
plug connector according to DIN EN 60603-2; pin 1: ground, pin 32: +Vs 2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
2600 m 11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
11 dB link budget, A = 3.0 dB/km, 3 dB reserve with OSA 205-E 2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +50 °C
2800 m 13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +50 °C
13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
13 dB link budget, A = 3.5 dB/km, 3 dB reserve with OSA 205-E 1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
1500 m 16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
16 dB link budget, A = 8.0 dB/km, 3 dB reserve with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
with OSA 205-E 14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
14.5 24 V 40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
40 mA 0.1 W operating voltage optical input signal 0 °C to +50 °C -20 °C to +80 °C
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optical input signal 0 °C to +50 °C -20 °C to +80 °C
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optical input signal 0 °C to +50 °C -20 °C to +80 °C
0 °C to +50 °C -20 °C to +80 °C
-20 °C to +80 °C
-20 °C to +80 °C
-20 °C to +80 °C
10% to 90%
19" plug-in card
15 (3 PU) x 128.5 (3 HU) x 185 mm
150 g
contact discharge: 4 kV, air discharge: 8 kV
10 V/m (80 - 1000 MHz)
10 4/11 (00 - 1000 WHZ)
power line: 2 kV, data line: 1 kV
power line: 1 kV (line/line)
10 V
· ·
EN 55022 limit class B
plug-in receiver card, operating instructions
4.00 animate ADT of
19" subrack ART 84

The upgradation training for transmission paths.

Hybrid components and OptoQuick components make circuits fit for fiber optic cables.





The upgrade to fiber optics can be as easy as this: hybrid components made by Hirschmann consist of a transmission and receiving unit, both installed in a compact metal housing. Together, they constitute a transmission system for digital data. Hybrid components are directly integrated on the printed circuit board of the user — that is all that is required. The advantages of optical fiber transmission technology are therefore

available — without the expenditure on optical fiber development, namely: no risk of RF/EMI, no disturbance from ground potential, increased transmission distances. Optical transmission and reception elements are also available from Hirschmann in the OptoQuick range. These also include optical coupling units and connectors with quick-connection optical technology.

The use of hybrid components makes it possible to reap the benefits of optical transmission technology such as distortion-free transmission in sensitive medical investigation devices – without high levels of expenditure.

All Hirschmann hybrid components offer reliable protection against electromagnetic radiation thanks to their compact metal housing and can be combined with each other, for example with models of FiberINTERFACES (plug-in cards and standalone modules) without any problems.







Hybrids modules and OptoQuick components



Audio Hybrids

Product description		
Description	optical audio transmitter hybrid; PCB mounting	
Port type and quantity	1 electrical port: 1 pin	
Туре	OSAH 200	
Order No.	943 043-001	
Electrical interface	040 040 001	
Input voltage	0 dBm = 0.775 V _{eff}	
· •	> 10 kOhm	
Input resistance	> 10 KONIN	
Output voltage		
Admissible load resistance at the output		
Linear distortion (30 Hz to 20 kHz)	≤ 0.5 dB at 0 °C to +50 °C / ≤ 0.8 dB at -40 °C to +80 °C	
Distorsion factor (at 0 dBm/1kHz)	≤ 0.1% at 0 °C to +50 °C / ≤ 0.15% at -40 °C to +80 °C	
Unweighted signal-to-noise-ratio (relative 0 dBm)	> 73 dB at 0 °C to +50 °C / > 68 dB at -40 °C to +80 °C	
Bandwidth (-3 dB)	10 Hz to 30 kHz at 0 °C to +50 °C / 15 Hz to 30 kHz at -40 °C to +80 °C	
Optical interface		
Wavelength	660 nm with OVKD 01-B (LED 013) (accessories)	
Launchable optical power in multi-mode fiber (MM) POF 980/1000	> 500 μW _{pp} , -3 dBm at 0 °C to +50 °C with OVKD 01-B (LED 013) (accessories)	
Optical input power		
Network size - length of cable		
Multimode fiber POF (MM) 980/1000 µm	88 m	
Walannode hoer For (www.) 300/1000 pm	24 dB link budget, A = 0.25 dB/m, 2 dB system reserve with OVKD 01-B (LED 013) (accessories) and OEAH 200 with OVKD 01-B (SFH 203 P) (accessories)	
Power requirements		
Operating voltage	+12 VDC ±10%	
Current consumption	55 mA	
Power consumption	0.7 W	
Drawing	C.I II	
	Pin 24 Pin 13 OSAH 200 © Hirschmann Fiberopt. Transmitter Audo Made in W. Germany Pin 1 Pin 12 34.8 6.35 5	
Ambient conditions		
Operating temperature	-40 °C to +80 °C	
Storage/transport temperature	-40 °C to +80 °C	
Relative humidity (non-condensing)	10% to 90%	
Mechanical construction		
Dimensions (W x H x D)	see "Drawing"	
Mounting	on PCB	
Weight	15 g	
Protection class	IP 65	
	see "Drawing"	
Pin assignment	pin 1: input; pin 2, 4-8, 10-12: GND; pin 3: gain setting; pin 9: LED pin 13-20: V _{CC} ; pin 21-24: N.C.	
Scope of delivery and accessories		
Scope of delivery	1 hybird, 1 operating instructions	
Accessories to order separately	optical converter OVKD 01-B (LED 013), order no. 936 215-009 scope of delivery: 1 converter housing with integrated and adjusted transmitter element, type OVK for platic fiber On request, we will be pleased to supply a data sheet indicating the dimensions and terminal assignment of the converter housing.	
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optical audio receiver hybrid; PCB mounting	
1 electrical port: 1 pin	
OEAH 200	
943 044-001	
0 dBm = 0.775 \/ (no load)	
0 dBm = 0.775 V _{eff} (no load)	
≥ 600 Ohm	
≤ 0.5 dB at 0 °C to +50 °C / ≤ 0.8 dB at -40 °C to +80 °C	
≤ 0.1% at 0 °C to +50 °C / ≤ 0.15% at -40 °C to +80 °C	
> 73 dB at 0 °C to +50 °C / > 68 dB at -40 °C to +80 °C	
10 Hz to 30 kHz at 0 °C to +50 °C / 15 Hz to 30 kHz at -40 °C to +80 °C	
> 2.0 μW _{pp} , -27 dBm at 0 °C to +50 °C with OVKD 01-B (SFH 203 P) (accessories)	
, , , , , , , , , , , , , , , , , , , ,	
88 m	
24 dB link budget, A = 0.25 dB/m, 2 dB system reserve	
with OSAH 200 with OVKD 01-B (LED 013) (accessories) and OVK 01-B (SFH 203 P)	
(accessories)	
10.1/00 1001	
+12 VDC ±10%	
35 mA	
0.4 W	
Pin 24 Pin 13 CEAH 200 Hirschmann Fiberopt. Receiver Audio Made in W. Germany Pin 1 Pin 12 34.8 6.35 5	
-40 °C to +80 °C	
-40 °C to +80 °C	
10% to 90%	
see "Drawing"	
on PCB	
15 g	
IP 65	
see "Drawing"	
pin 1: pin diode; pin 2-10: GND; pin 11: output pin 12: gain setting; pin 13-24: V _{CC}	
1 hybird, 1 operating instructions	
optical converter OVKD 01-B (SFH 203 P), order no. 936 215-037 scope of delivery: 1 converter housing with integrated and adjusted receiver element, type OVK for platic fiber	
On request, we will be pleased to supply a data sheet indicating the dimensions and terminal assignment of the converter housing.	

Hybrids modules and OptoQuick components



Product description diode socket with optical transmitter element; for plastic FO Description Construction type OVK OptoQuick OVKD 01-B (LED 013) Type 936 215-009 Mechanical construction Mounting on PCB Scope of delivery and accessories diode socket with integrated and adjusted transmitter element LED 013 1 operating instructions Scope of delivery

OptoQuick Components





	diode socket with optical receiver element;	diode socket;
	for plastic FO	for plastic FO
	OVK OptoQuick	OVK OptoQuick
	black	black
	OVKD 01-B (SFH 203 P)	OVKD 01
	936 215-037	936 205-001
	on PCB	on PCB
	diode socket with integrated and adjusted receiver element SFH 203 P	20 diode sockets
	1 operating instructions	1 operating instructions
1		

Hybrids modules and OptoQuick components



OptoQuick Components

Product description		
Description	diode socket; for plastic FO	
Construction type	OVK OptoQuick	
Colour	grey	
Туре	OVKD 01	
Order No.	936 205-002	
Mechanical construction		
Mounting	on PCB	
Scope of delivery and accessories		
Scope of delivery	20 diode sockets 1 operating instructions	





fiber optic plug;	fiber optic plug;
for plastic fiber with an external diameter of 2.2 mm,	for plastic fiber with an external diameter of 2.2 mm,
strain relief 40 N	strain relief 40 N
OVK OptoQuick	OVK OptoQuick
OVK Optoquick	OVN Optoquiek
black	grey
OVKS 2,2	OVKS 2,2
936 200-001	936 200-002
20 fiber optic plugs, each consisting of a plug body and a strain relief	20 fiber optic plugs, each consisting of a plug body and a strain relief
1 polishing tool	1 polishing tool
1 operating instructions	1 operating instructions
i operating instructions	r operating instructions

Hybrids modules and OptoQuick components



OptoQuick Components

	Product description		
	Description	fiber optic coupling;	
		for plastic FO	
	Construction type	OVK OptoQuick	
	Colour	black	
	Туре	OVKK 01	
	Order No.	934 101-100	
Ī	Mechanical construction		
	Mounting	for use in housing sidewalls and for use as an independent coupling	
	Scope of delivery and accessories		
	Scope of delivery	20 couplings,	
		20 retaining nuts	
		1 operating instructions	



fiber optic coupling;	
for plastic FO	
OVK OptoQuick	
grey	
OVKK 01	
934 101-106	
for use in housing sidewalls and for use as an independent coupling	
20 couplings,	
20 retaining nuts	
1 operating instructions	
, ,	

For a complete product solution, you need accessories.

Workable ideas for your application.





Hirschmann system accessories for FiberINTERFACES offer practical and workable solutions that are perfectly adapted to the product in question, enabling easy assembly while ensuring secure power supply. Several reasons why there is only one optimum addition to our field buses, digital modules, hybrid components and OptoQuick elements, video and audio systems: Hirschmann DIN rail adapters, mechanical adapters for clip-on modules, plug-in power supply units, DIN rail power supply units, slide-in power supply units and 19" mounting racks.

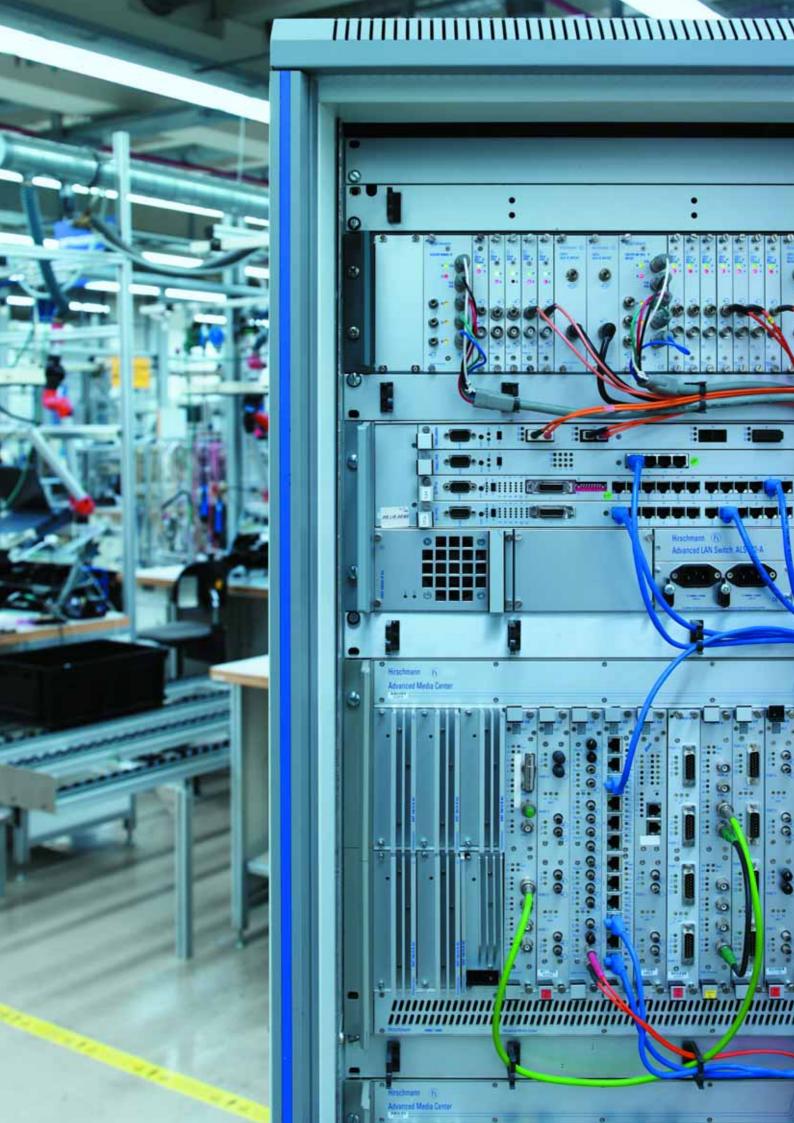
This is one-stop shopping that saves real money. You not only benefit from a complete solution that has been thought through to the last detail, but you also benefit from our worldwide distribution network. This way you don't just have the latest technology working for you you also get time on your side.

Like every product from the comprehensive Hirschmann range, our accessories satisfy the high expectations of our clients in terms of material selection, processing quality, reliability and long life.

As the ideal supplement to Hirschmann FiberINTERFACES, our accessories not only offer solutions that have been thought-out down to the finest details, but also save valuable time during installation.







Accessories



Subrack

Product description		
Description	19" subrack with integrated power supply; usable width for plug-in cards: 84 TE (75 TE + 9 TE for redundant power supply)	
Туре	ART 84	
Order No.	933 797-001	
Electrical interfaces		
Input voltage	90 to 260 VAC; 47 to 60 Hz or 100 to 300 VDC self-adjusting	
Current consumption	120 V: max. 2.5 A 230 V: max. 1.0 A	
Power consumption	depending on assembly	
Output voltage	+18 V ±0.5 V	
Output current	3.3 A; sustained short circuit proofing, overload safe, secondary side non-earthed	
More Interfaces		
Mains voltage	mains cable, plugable, 2 m long, with grounding-type attachment plug	
Power supply for the plug-in cards	socket connector according to DIN EN 60603-2; pin 1: ground, pin 32: +V _S (18 V)	
Ambient conditions		
Operating temperature	0 °C to +50 °C	
Storage/transport temperature	-20 °C to +85 °C	
Relative humidity (non-condensing)	10% to 90%	
Mechanical construction		
Dimensions (W x H x D)	483 (84 PU) x 132.5 (3 HU) x 345 mm	
Weight	4.7 kg	
Protection class	IP 20	
EMC interference immunity		
EN 61000-6-2 Immunity for industrial environments	EN 61000-6-2	
EMC emitted immunity		
EN 55022	EN 55022 limit class B	
Approvals		
Issued approvals	C-Tick	
Scope of delivery and accessories		
Scope of delivery	device, cover panels, slot-in legs, mains cable (plugable, 2 m long), operating instructions	
Accessories to order separately	redundant 18 V power supply unit RPS 1860	

Accessories



Slide-in Power Supply

Product description		
Description	18 V slide-in power supply unit for 19" subrack ART 84;	
	to double the output current or for use as a redundant power supply unit	
Туре	RPS 1860	
Order No.	933 830-001	
Electrical interfaces		
Input voltage	90 to 260 VAC; 47 to 60 Hz or 100 to 300 VDC	
	self-adjusting	
Current consumption	120 V: max. 1.5 A	
	230 V: max. 0.5 A	
Power consumption	< 80 W	
Output voltage	+18 V ±1%	
Output current	3.2 A; sustained short circuit proofing, overload safe, secondary side non-earthed	
More Interfaces		
Mains voltage	socket connector	
Power supply for the plug-in cards	socket connector according to DIN EN 60603-2; pin 1: ground, pin 32: +V _S (18 V)	
Ambient conditions		
Operating temperature	0 °C to +50 °C	
Storage/transport temperature	-20 °C to +85 °C	
Relative humidity (non-condensing)	10% to 90%	
Mechanical construction		
Width	9 PU (pitch units) in subrack ART 84	
Weight	400 g	
Protection class	IP 20	
EMC interference immunity		
EN 61000-6-2 Immunity for industrial environments	EN 61000-6-2	
EMC emitted immunity		
EN 55022	EN 55022 limit class B	
Scope of delivery and accessories		
Scope of delivery	device, operating instructions	

Accessories



DIN Rail Power Supplies

Product description Diln rail power supply Spe RPS 30 Corder No. Selection of the operating voltage Input voltage			
Process	•		
Description 943 662-003	Description	DIN rail power supply	
Electrical interfaces Selection of the operating voltage Input voltage I		RPS 30	
Selection of the operating voltage Input vol	Order No.	943 662-003	
Input voltage 100 to 240 VAC; 47 to 63 Hz or 83 to 375 VDC	Electrical interfaces		
Current consumption max. 0,35 A at 296 VAC Power consumption	Selection of the operating voltage		
Power consumption < 100 W Output voltage	Input voltage	100 to 240 VAC; 47 to 63 Hz or 83 to 375 VDC	
Author of the plug - in cards	Current consumption	max. 0,35 A at 296 VAC	
Output current 1.3 A at 100 to 240 VAC	Power consumption	< 100 W	
More Interfaces Mains voltage Power supply for the plug-in cards Ambient conditions Operating temperature Storage/fransport temperature Power supply for the plug-in cards S-pin terminal block Ambient conditions Operating temperature -10 °C to +70 °C (from 60 °C derating) Storage/fransport temperature -25 °C to +85 °C Relative humidity (non-condensing) 10% to 95% Mechanical construction Dimensions (W x H x D) Mounting DIN 7 ail Weight 230 g Protection class IP 20 Housing material EMG interference immunity EN 61000-6-2 Immunity for industrial environments EN 65002 EN 55022 EN 55022 EN 55022 limit class B	Output voltage	+24 VDC +0.5%, -0.5%	
Mains voltage Power supply for the plug-in cards Ambient conditions Operating temperature Operating temperature -10 °C to +70 °C (from 60 °C derating) Storage/transport temperature -25 °C to +85 °C Relative humidity (non-condensing) Mechanical construction Dimensions (W x H x D) Mounting Mounting Dil N rail Weight Protection class IP 20 Housing material EMC interference immunity EN 61000-6-2 Immunity for industrial environments EMC emitted immunity EN 55022 EN 55022 EN 55022 limit class B Scope of delivery and accessories	Output current	1.3 A at 100 to 240 VAC	
Power supply for the plug-in cards Ambient conditions Operating temperature -10 °C to +70 °C (from 60 °C derating) Storage/transport temperature -25 °C to +85 °C Relative humidity (non-condensing) Mechanical construction Dimensions (W x H x D) 45 x 75 x 98 mm Mounting DIN rail Weight 230 g Protection class IP 20 Housing material EMC interference immunity EN 61000-6-2 Immunity for industrial environments EN 61000-6-2 EMC emitted immunity EN 55022 EN 55022 EN 55022 limit class B Scope of delivery and accessories	More Interfaces		
Ambient conditions Operating temperature -10 °C to +70 °C (from 60 °C derating) Storage/transport temperature -25 °C to +85 °C Relative humidity (non-condensing) 10% to 95% Mechanical construction Dimensions (W x H x D) 45 x 75 x 98 mm Mounting DIN rail Weight 230 g Protection class IP 20 Housing material EMC interference immunity EN 61000-6-2 Immunity for industrial environments EMC emitted immunity EN 65022 EN 55022 EN 55022 limit class B -10 °C to +70 °C (from 60 °C derating)	Mains voltage	3-pin terminal block	
Operating temperature -10 °C to +70 °C (from 60 °C derating) Storage/transport temperature -25 °C to +85 °C Relative humidity (non-condensing) 10% to 95% Mechanical construction Dimensions (W x H x D) 45 x 75 x 98 mm Mounting DIN rail Weight 230 g Protection class IP 20 Housing material metal housing with ventilation grate EMC interference immunity EN 61000-6-2 Immunity for industrial environments EN 61000-6-2 EMC emitted immunity EN 55022 EN 55022 limit class B Scope of delivery and accessories	Power supply for the plug-in cards	5-pin terminal block	
Storage/transport temperature -25 °C to +85 °C Relative humidity (non-condensing) 10% to 95% Mechanical construction Dimensions (W x H x D) 45 x 75 x 98 mm Mounting DiN rail Weight 230 g Protection class IP 20 Housing material EMC interference immunity EN 61000-6-2 Immunity for industrial environments EMC emitted immunity EN 55022 EN 55022 Iimit class B Scope of delivery and accessories	Ambient conditions		
Relative humidity (non-condensing) Mechanical construction Dimensions (W x H x D) A5 x 75 x 98 mm Mounting DiN rail Weight Protection class IP 20 Housing material EMC interference immunity EN 61000-6-2 Immunity for industrial environments EMC emitted immunity EN 55022 EN 55022 EN 55022 limit class B Scope of delivery and accessories	Operating temperature	-10 °C to +70 °C (from 60 °C derating)	
Mechanical construction 45 x 75 x 98 mm Dimensions (W x H x D) 45 x 75 x 98 mm Mounting DIN rail Weight 230 g Protection class IP 20 Housing material metal housing with ventilation grate EMC interference immunity EN 61000-6-2 Immunity for industrial environments EN 61000-6-2 EMC emitted immunity EN 55022 EN 55022 limit class B Scope of delivery and accessories	Storage/transport temperature	-25 °C to +85 °C	
Dimensions (W x H x D)	Relative humidity (non-condensing)	10% to 95%	
Mounting DIN rail Weight 230 g Protection class IP 20 Housing material metal housing with ventilation grate EMC interference immunity EN 61000-6-2 Immunity for industrial environments EN 61000-6-2 EMC emitted immunity EN 55022 EN 55022 Iimit class B Scope of delivery and accessories	Mechanical construction		
Weight 230 g Protection class IP 20 Housing material metal housing with ventilation grate EMC interference immunity EN 61000-6-2 Immunity for industrial environments EN 61000-6-2 EMC emitted immunity EN 55022 EN 55022 limit class B Scope of delivery and accessories	Dimensions (W x H x D)	45 x 75 x 98 mm	
Protection class IP 20 Housing material metal housing with ventilation grate EMC interference immunity EN 61000-6-2 Immunity for industrial environments EN 61000-6-2 EMC emitted immunity EN 55022 EN 55022 limit class B Scope of delivery and accessories	Mounting	DIN rail	
Housing material metal housing with ventilation grate EMC interference immunity EN 61000-6-2 Immunity for industrial environments EMC emitted immunity EN 55022 EN 55022 EN 55022 Iimit class B Scope of delivery and accessories	Weight	230 g	
EMC interference immunity EN 61000-6-2 Immunity for industrial environments EMC emitted immunity EN 55022 EN 55022 EN 55022 Imit class B Scope of delivery and accessories	Protection class	IP 20	
EN 61000-6-2 Immunity for industrial environments EMC emitted immunity EN 55022 EN 55022 Imit class B Scope of delivery and accessories	Housing material	metal housing with ventilation grate	
EMC emitted immunity EN 55022 EN 55022 limit class B Scope of delivery and accessories	EMC interference immunity		
EN 55022 EN 55022 limit class B Scope of delivery and accessories	EN 61000-6-2 Immunity for industrial environments	EN 61000-6-2	
Scope of delivery and accessories	EMC emitted immunity		
		EN 55022 limit class B	
Scope of delivery device, operating instructions			
	Scope of delivery	device, operating instructions	





DIN rail power supply	DIN rail power supply
RPS 60	RPS 120
943 662-001	943 662-011
selector switch 230 V / 115 V	selector switch 230 V / 115 V
switch setting 230 V: 176 to 264 VAC; 47 to 63 Hz or 160 to 375 VDC switch setting 115 V: 85 to 132 VAC; 47 to 63 Hz	switch setting 230 V: 176 to 264 VAC; 47 to 63 Hz or 210 to 375 VDC switch setting 115 V: 85 to 132 VAC; 47 to 63 Hz
switch setting 230 V: max. 0.7 A at 264 VAC switch setting 115 V: max. 1.3 A at 264 VAC	switch setting 230 V: max. 1.4 A at 264 VAC switch setting 115 V: max. 2.6 A at 264 VAC
< 185 W	< 370 W
+24 VDC +5%, -1%	+24 VDC +5%, -1%
switch setting 230 V: 2.5 A at 176 to 264 VAC 2.5 A at 160 to 375 VDC switch setting 115 V: 2.5 A at 85 to 132 VAC	switch setting 230 V: 5 A at 176 to 264 VAC 5 A at 180 to 375 VDC switch setting 115 V: 5 A at 85 to 132 VAC
3-pin terminal block	3-pin terminal block
5-pin terminal block	3-pin terminal block
-10 °C to +70 °C (from 60 °C derating)	-10 °C to +70 °C (from 60 °C derating)
-25 °C to +85 °C	-25 °C to +85 °C
10% to 90%	10% to 90%
50 x 125 x103 mm	65 x 125 x103 mm
DIN rail	DIN rail
460 g	620 g
IP 20	IP 20
metal housing with ventilation grate	metal housing with ventilation grate
EN 61000-6-2	EN 61000-6-2
EN 55022 limit class B	EN 55022 limit class B
device, operating instructions	device, operating instructions

Accessories



Plug-in Power Supplies

Product description		
Description	plug-in power supply	
Туре	PSW 5-24	
Order No.	943 008-001	
Electrical interfaces		
Input voltage	90 to 260 VAC; 47 to 60 Hz	
Current consumption	400 mA	
Power consumption		
Output voltage	+5 V	
Output current	max. 2.4 A	
Ripple voltage	max. 75 mVpp	
More Interfaces		
Voltage output	extra-low voltage plug, design M8 acc. IEC 947-5-2	
Ambient conditions		
Operating temperature	0 °C to +40 °C	
Storage/transport temperature	-40 °C to +70 °C	
Relative humidity (non-condensing)	5% to 95%	
Mechanical construction		
Weight	200 g	
EMC interference immunity		
EN 61000-6-2 Immunity for industrial environments	EN 61000-6-2	
EMC emitted immunity		
EN 55022	EN 55022 limit class B	
Scope of delivery and accessories		
Scope of delivery	device	





plug-in power supply	plug-in power supply
SNT 012	PSW 12-12
943 007-001	934 022-001
230 VAC ±5%	90 to 260 VAC; 47 to 60 Hz or 100 to 300 VDC
	400 mA
6 W	
+12 V	+12 V
max. 130 mA	max. 1 A
max. 5 mVpp	max. 100 mVpp
extra-low voltage plug, appliance side polarity: pin: earth/socket: +V _S	extra-low voltage plug, design M8 acc. IEC 947-5-2
0 °C to +40 °C	0 °C to +40 °C
-20 °C to +70 °C	-40 °C to +70 °C
5% to 95%	5% to 95%
220 g	190 g
EN 61000-6-2	EN 61000-6-2
EN 55022 limit class B	EN 55022 limit class B
device	device

Accessories



DIN Rail Adapter

Product description		
Description	mechanical adapter for the plug-on modules OZDV 2451 P, OZDV 2451 G, OZDV 2471 P, OZDV 2471 G, OZDV 2471 G-1300 OMDV 2404 P OV, OMDV 2404 G BFOC, OMDV 2404 G BFOC-1300	
Туре	OZDV HA	
Order No.	933 920-001	
Scope of delivery and accessories		
Scope of delivery	1 device, 1 operating instructions	

INDEX

ART 84		Page
	933 797-001	72
ODR 150 M 3 FSMA	943 692-001	54
OEA 204-E	943 073-003	59
OEAH 200	943 044-001	63
OEV 052 BFOC	943 017-021	41
OEV 052-E BFOC	933 964-021	42
OEV 801-E BFOC	933 798-021	50
OEV 801-E FSMA	933 798-001	51
OEVR 150M FSMA	934 016-001	52
OEVR 150M Sync BFOC	934 016-521	53
OEVR 150M Sync FSMA	934 016-501	53
OMDV 2404 G BFOC	943 315-021	35
OMDV 2404 G BFOC-1300	943 315-121	35
OMDV 2404 P OV	943 305-001	34
ORVC G1 BFOC	943 688-221	43
OSA 205-E	943 075-003	58
OSAH 200	943 043-001	62
OSV 052 BFOC	943 016-021	40
OSV 052-E BFOC	933 965-021	41
OSVC 01 BFOC	933 835-021	43
OSVC 01 BFOC-1300	933 902-021	43
OSVR 150M BFOC	943 823-021	48
OSVR 150M FSMA	943 823-001	49
OSVR 150M-PCI64 BFOC	943 755-021	47
OSVR 150M-PCI64 FSMA	943 755-001	47
OSVR 80M2-E BFOC	933 799-021	46
OTV 80M2	943 214-001	44
OVKD 01	936 205-001	65
OVKD 01	936 205-002	66
OVKD 01-B (LED 013)	936 215-009	64
OVKD 01-B (SFH 203 P)	936 215-037	65
OVKK 01	934 101-100	68
OVKK 01	934 101-106	69
OVKS 2,2	936 200-001	67
OVKS 2,2	936 200-002	67
OZD 485 BFOC-1300	943 405-021	23
OZD 485 G12	943 776-321	24
OZD 485 G12-1300	943 777-321	25
OZD 485 G2 BFOC	943 290-021	22
OZD 485 G2 FSMA	943 290-001	23
OZD FIP G3	933 847-421	20
OZD FIP G3 T	933 847-521	21
OZD Genius G12	933 989-021	18
OZD Genius G12-1300	934 233-021	19
OZD Modbus Plus G12	943 740-021	16
OZD Modbus Plus G12-1300	943 821-021	17
OZD Profi 12M G11	943 727-221	12
OZD Profi 12M G11-1300	943 729-221	14
OZD Profi 12M G12	943 727-321	13
OZD Profi 12M G12 EEC	943 730-321	13
OZD Profi 12M G12-1300	943 729-321	15
OZD Profi 12M G12-1300 EEC		15
OZD Profi 12M P11	943 728-221	10
	0	.0

Туре	Order No.	Page
OZDV 2451 G	943 299-021	31
OZDV 2451 P	943 316-021	30
OZDV 2471 G	943 341-021	33
OZDV 2471 G-1300	933 990-021	33
OZDV 2471 P	943 340-021	32
OZDV HA	933 920-001	80
PSW 12-12	934 022-001	79
PSW 5-24	943 008-001	78
RPS 120	943 662-011	77
RPS 1860	933 830-001	74
RPS 30	943 662-003	76
RPS 60	943 662-001	77
SNT 012	943 007-001	79

Order No.	Туре	Page
933 797-001	ART 84	72
933 798-001	OEV 801-E FSMA	51
933 798-021	OEV 801-E BFOC	50
933 799-021	OSVR 80M2-E BFOC	46
933 830-001	RPS 1860	74
933 835-021	OSVC 01 BFOC	43
933 847-421	OZD FIP G3	20
933 847-521	OZD FIP G3 T	21
933 902-021	OSVC 01 BFOC-1300	43
933 920-001	OZDV HA	80
933 964-021	OEV 052-E BFOC	42
933 965-021	OSV 052-E BFOC	41
933 989-021	OZD Genius G12	18
933 990-021	OZDV 2471 G-1300	33
934 016-001	OEVR 150M FSMA	52
934 016-501	OEVR 150M Sync FSMA	53
934 016-521	OEVR 150M Sync BFOC	53
934 022-001	PSW 12-12	79
934 101-100	OVKK 01	68
934 101-106	OVKK 01	69
934 233-021	OZD Genius G12-1300	19
936 200-001	OVKS 2,2	67
936 200-002	OVKS 2,2	67
936 205-001	OVKD 01	65
936 205-002	OVKD 01	66
936 215-009	OVKD 01-B (LED 013)	64
936 215-037	OVKD 01-B (SFH 203 P)	65
943 007-001	SNT 012	79
943 008-001	PSW 5-24	78
943 016-021	OSV 052 BFOC	40
943 017-021	OEV 052 BFOC	41
943 043-001	OSAH 200	62
943 044-001	OEAH 200	63
943 073-003	OEA 204-E	59
943 075-003	OSA 205-E	58
943 214-001	OTV 80M2	44
943 256-321	OZD Profi 12M G12-1300 EEC	15
943 290-001	OZD 485 G2 FSMA	23
943 290-021	OZD 485 G2 BFOC	22
943 299-021	OZDV 2451 G	31
943 305-001	OMDV 2404 P OV	34
943 315-021	OMDV 2404 G BFOC	35
943 315-121	OMDV 2404 G BFOC-1300	35
943 316-021	OZDV 2451 P	30
943 340-021	OZDV 2471 P	32
943 341-021	OZDV 2471 G	33
943 405-021	OZD 485 BFOC-1300	23
943 662-001	RPS 60	
		77
943 662-003	RPS 30	<u>76</u>
943 662-011	RPS 120	77
943 688-221	ORVC G1 BFOC	43
943 692-001	ODR 150 M 3 FSMA	54
943 727-221	OZD Profi 12M G11	12
943 727-321	OZD Profi 12M G12	13

Order No.	Туре	Page
943 728-221	OZD Profi 12M P11	10
943 728-321	OZD Profi 12M P12	11
943 729-221	OZD Profi 12M G11-1300	14
943 729-321	OZD Profi 12M G12-1300	15
943 730-321	OZD Profi 12M G12 EEC	13
943 740-021	OZD Modbus Plus G12	16
943 755-001	OSVR 150M-PCI64 FSMA	47
943 755-021	OSVR 150M-PCI64 BFOC	47
943 776-321	OZD 485 G12	24
943 777-321	OZD 485 G12-1300	25
943 821-021	OZD Modbus Plus G12-1300	17
943 823-001	OSVR 150M FSMA	49
943 823-021	OSVR 150M BFOC	48



Automation and Network Solutions

Germany

Hirschmann Electronics GmbH
Automation and Network Solutions
Stuttgarter Straße 45-51
D-72654 Neckartenzlingen
Postfach 1649
D-72606 Nürtingen
Tel. +49-71 27-14-14 80

Iel. +49-7127-14-1480
Fax +49-7127-14-1495/-1496
E-mail: ans-hi-line@hirschmann.de
http://www.hirschmann.com

Switzerland

Hirschmann Electronics GmbH, Neckartenzlingen Zweigniederlassung Uster Seestrasse 16 CH-8610 Uster Tel. +41-44-9058282 Fax +41-44-9058289

E-mail: ans_ch@hirschmann.ch

Hirschmann Electronics S.A.S.

France

2, rue des Charpentiers F-95330 Domont Tel. +33-1-39350100 Fax +33-1-39350102 E-mail: ans@hirschmann.fr

UK

Hirschmann Electronics Ltd.
4303 Waterside Centre
Solihull Parkway
Birmingham Business Park
Birmingham
West Midlands
B37 7YN
Tel. +44-121-329-5000

E-mail: enquiry@hirschmann.co.uk

Fax +44-121-329-5001

Netherlands

Hirschmann Electronics B.V.
Pampuslaan 170
1382 JS WEESP
Postbus 92
NL-1380 AB Weesp
Tel. +31-294-462-591
Fax +31-294-462-554

E-mail: ans@hirschmann.nl

Spain

Hirschmann Automation and Control S.L. Calle Trespaderne, 29 Edificio Barajas I, 2a Planta E-28042 Madrid

Tel. +34-91-7461730 Fax +34-91-7461735 E-mail: hes@hirschmann.es

USA

Hirschmann Electronics Inc. 20440 Century Boulevard, Suite 150 Germantown, MD 20874 Tel. +1-240 686 2300 Fax +1-240 686 3589 E-mail: ans@hirschmann-usa.com

China

Hirschmann Electronics Pte Ltd Shanghai Office Room 828, Summit Center 1088 West Yan An Road Shanghai 200052

P.R. China

Tel. +86-21-6207-6637 Fax +86-21-6207-6837 E-mail: info@hirschmann.sh.cn

Singapore

Hirschmann Electronics Pte. Ltd. 2 International Business Park #11-02/03 The Strategy Singapore 609930

Tel. +65-63167797 Fax +65-63167977

E-mail: info@hirschmann.com.sg

For all other countries please dial Tel. +49-7127-14-1620 Contact address see Hirschmann Germany.

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