Automation and Network Solutions

In the ETHERNET arena, the movers and shakers think in Gigabits:

The new Power MICE

- Layer 3 Gigabit ETHERNET switch
- Flexible, modular chassis • Future-safe hardware platform • Advanced security features
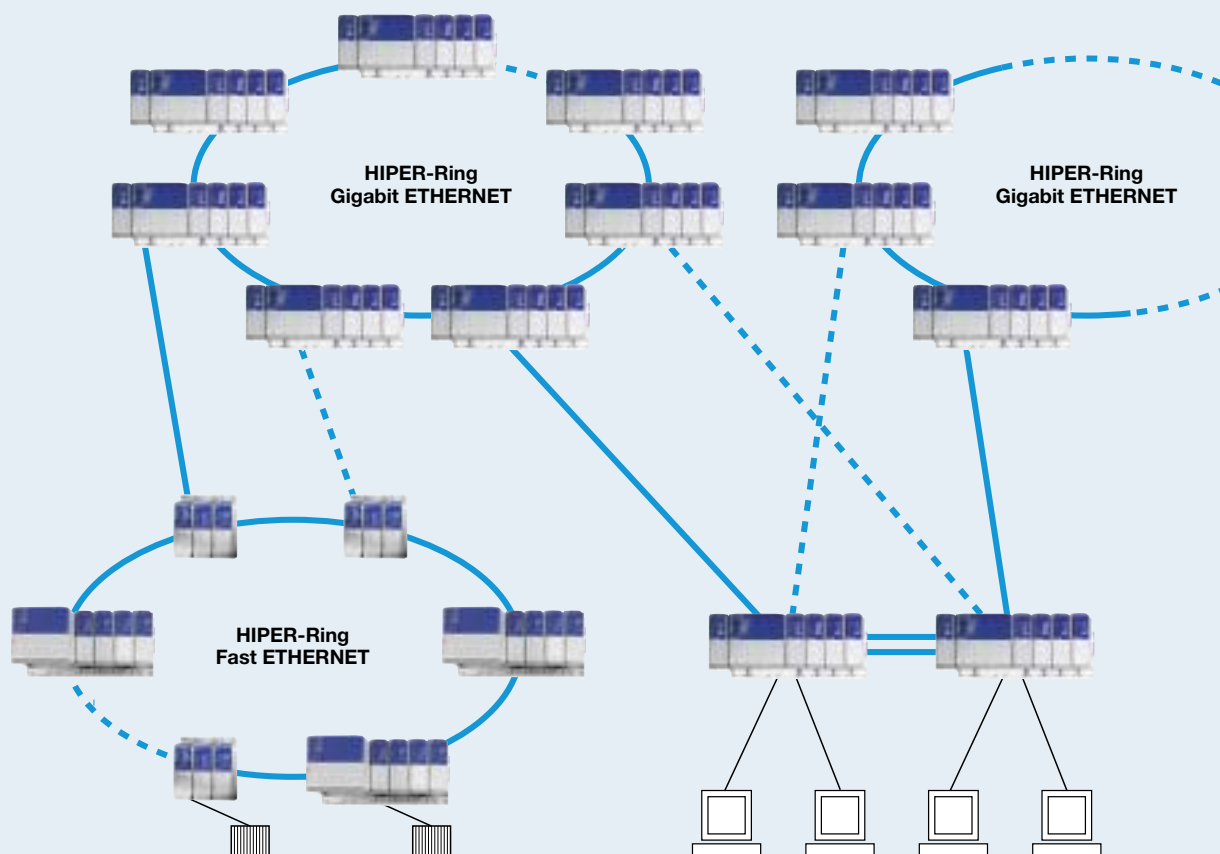- Industrialized, rugged design

HIRSCHMANN

Run rings around your demanding process lines.

The new Gigabit capable Power MICE does more, faster.

Applications

High speed communication utilising ETHERNET is becoming more and more important in industrial automation. Although individual devices may still communicate at the relatively sl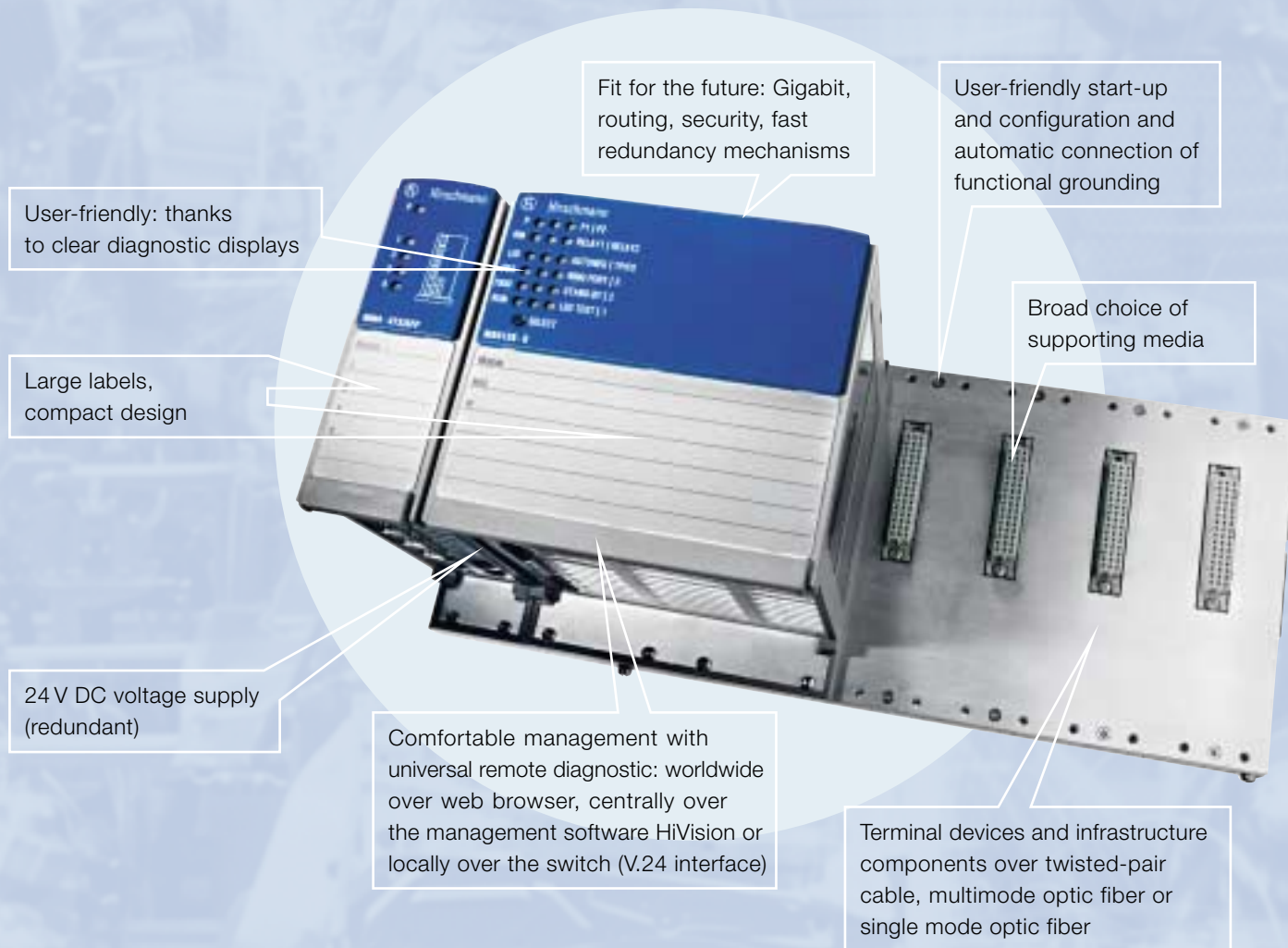ow 10 Mbps or 100 Mbps, the need for resilient backbone architectures that can easily handle many devices all communicating at these speeds is becoming paramount. As video monitoring applications and web based data delivery become the norm, this requirement is only going to grow.

**HIPER-Ring
Gigabit ETHERNET**

**HIPER-Ring
Gigabit ETHERNET**

**HIPER-Ring
Fast ETHERNET**

Product Features

Hirschmann, as always, steps forward to take up the challenge. The new Power MICE builds on the already hugely successful and widely deployed MICE platform to provide resilient Gigabit backbones whilst still maintaining the flexibility and ruggedness of an industrially designed DIN rail mountable ETHERNET switch. With support for the industrial de facto standard HIPER-Ring, the new Power MICE literally lets you run rings around your demanding applications.
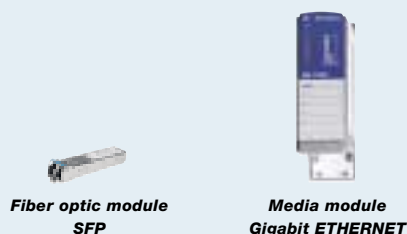
Fit for the future: Gigabit, routing, security, fast redundancy mechanisms

User-friendly start-up and configuration and automatic connection of functional grounding

User-friendly: thanks to clear diagnostic displays

Broad choice of supporting media

Large labels, compact design

24 V DC voltage supply (redundant)

Comfortable management with universal remote diagnostic: worldwide over web browser, centrally over the management software HiVision or locally over the switch (V.24 interface)

Terminal devices and infrastructure components over twisted-pair cable, multimode optic fiber or single mode optic fiber

Power MICE System

- Power MICE
- Gigabit Module
- Media modules MM2xx/MM3xx
- Expansion backplane MB-2T

The Power Mice System consists of:

Power MICE switch, 4-port Gigabit module, 4 different

SFP fiber optic transceivers and the media modules,

inclusive of expansion backplane of the proven MICE family.

Fiber optic module
SFP

Media module
Gigabit ETHERNET

Switch
Power MICE MS 4128

Backplane
Expansion

Media module
Fast ETHERNET

Switch
MS 2108

Switch
MS 3124

Product	
Description	MICE, modular, managed Industrial ETHERNET-Switch, ETHERNET 10 Mbit/s / 100 Mbit/s und 1000 Mbit/s
Type	MS4128-5
Order No.	943 009-001
Technical data	
Port type and quantity	up to 28 ports via media modules, 4 x 10/100/1000BASE-fiber with SFP modules, or 4 x 10/100/1000BASE-TX, and 24 x Fast ETHERNET via media modules
Network	any line- star topology, ring structure (HIPER-Ring, RSTP)
Management	serial interface, Web-Interface, SNMP V1/V2/V3, HiVision
Diagnostics	LEDs (Power, Link Status, Data, 100 Mbit/s, autonegotiation, full-duplex, error, redundancy manager, ring-port, LED test), cable-tester 2 x signaling contact, RMON (statistics, history, alarms, events), port mirroring
Configuration	Comand Line Interface (CLI), TELNET, BootP, DHCP, DHCP Option 82, HIDiscovery, Auto configuration adapter (ACA21-USB)
Security	SNMP V3 (SSH, SSL), security, ACL, Authentication (802.1x)
Other services	QoS 4 queues, port prioritization (IEEE 802.1D/p), VLAN (802.1Q), Multicast (IGMP Snooping/Querier, GMRP), Broadcast limiter, Flow Control IEEE 802.3x, SNTP (Simple Network Time Protocol)
Redundancy	HIPER-Ring (ring structure), RSTP (Rapid Spanning Tree Protocol), redundant net-/ring coupling, Dual Homing, redundant 24 V power supply, redundant signaling contact Link Aggregation dynamic and static (up to 7 trunks, 8 ports/trunk, LACP)
Prepared for	TOS (Type of Service) Diff.-Serv, TOS-Prio-Mapping, protocol based VLANs Routing RIP and OSPF HIRRP / VRRP, Proxy ARP
Power supply	24 V DC / 15 W
Operating temperature	0 °C to +60 °C
Dimensions (W x H x D)	315 mm x 134 mm x 140 mm
IEC 60068-2-27 shock	15 g, 11 ms duration, 18 shocks
IEC 60068-2-6 vibration	1 mm, 2 – 13.2 Hz, 90 min.; 0.7 g, 13.2 – 100 Hz, 90 min.; 3.5 mm, 3 – 9 Hz, 10 cycles, 1 octave/min.; 1 g, 9 –150 Hz, 10 cycles, 1 octave/min.
Approvals	cUL 508 (E175531), cUL 1604 Class 1 Div 2 (E203960), cUL 60950 (E168643), Germanischer Lloyd (43 109-02 HH)

Product	
Description	Media module for MICE-switch MS4128-5
Type	MM4-4TX/SFP
Order No.	943 010-001
Technical data	
Port type and quantity	4 x 1000BASE-fiber with SFP modules, or 4 x 10/100/1000BASE-TX, TP cable, RJ45-sockets, autocrossing, autoneg., autopolarity any combination TX or SFP, 1 SFP deactivates 1TX, up to 4 ports
Diagnostics	LEDs (power, link status, data, 1000 Mbit/s, autonegotiation, full duplex, ring-port)
Power supply	Power supply via the backplane of the MICE switch
Power consumption	2 W
Operating temperature	0 °C to +60 °C
Dimensions (W x H x D)	38 mm x 134 mm x 118 mm
IEC 60068-2-27 shock	15 g, 11 ms duration, 18 shocks
IEC 60068-2-6 vibration	1 mm, 2 – 13.2 Hz, 90 min.; 0.7 g, 13.2 – 100 Hz, 90 min.; 3.5 mm, 3 – 9 Hz, 10 cycles, 1 octave/min.; 1 g, 9 –150 Hz, 10 cycles, 1 octave/min.
Approvals	cUL 508 (E175531), cUL 1604 Class 1 Div 2 (E203960), cUL 60950 (E168643), Germanischer Lloyd (43 109-02 HH)

Product				
Description	SFP fiber optic module for media module MM4-TX/SFP			
Type	M-SFP-SX/LC	M-SFP-LX/LC	M-SFP-LH/LC	M-SFP-LH+/LC
Order No.	943 014-001	943 015-001	943 042-001	943 049-001
Multimode-fiber (MM) 50/125 µm	0.5 km	0.5 km		
Singlemode-fiber (SM) 9/125 µm		20 km		
Singlemode-fiber (LH) 9/125µm			70 km	120 km
Technical data				
Port type and quantity	1 x 1000BASE-SX with LC connector			
Diagnostics	Optical input and output power, transceiver temperature			
Power supply	Power supply via the media module			
Power consumption	1 W			
Operating temperature	0 °C to +60 °C			
IEC 60068-2-27 shock	15 g, 11 ms duration, 18 shocks			
IEC 60068-2-6 vibration	1 mm, 2 –13.2 Hz, 90 min.; 0.7 g, 13.2 – 100 Hz, 90 min.; 3.5 mm, 3 – 9 Hz, 10 cycles, 1 octave/min.; 1 g, 9 –150 Hz, 10 cycles, 1 octave/min.			
Approvals	cUL 508 (E175531), cUL 1604 Class 1 Div 2 (E203960), cUL 60950 (E168643),			

The MICE system proves itself on the DIN rail through maximum performance and flexible integration into existing systems.

Hirschmann brings a powerful performer to all process lines.

You can reach your goal even faster with the new, Gigabit capable Power MICE.

Requirements and Solutions

For ETHERNET networks that demanded high availability in extreme environments there was the MICE. Now for those same networks that demand high performance as well, Hirschmann introduce the Power MICE.

The Power MICE is designed to provide high bandwidth to applications running in extreme environmental conditions. Gigabit HIPER-Ring guarantees continuous communication allowing you to run rings around even the most demanding of industrial applications. In the context of rapidly changing requirements of daily practical routine, it is very important to have a high flexibility and a capacity to easily accommodate future extensions, network topologies or technical developments.

It is with these requirements in mind that Hirschmann, with its new Power MICE (Modular Industrial Communication Equipment) – is laying an important new milestone in the ETHERNET network. With this, we guarantee continuity of communication at all the levels of your organization. This is in the form of a high-performance Gigabit solution for the DIN rail – with all the functional capabilities of a large office device in industrial design.

HIRSCHMANN

Automation and Network Solutions

Germany
Hirschmann Electronics GmbH & Co. KG
Automation and Network Solutions
Stuttgarter Straße 45-51
D-72654 Neckartenzlingen
Postfach 1649
D-72606 Nürtingen
Tel. +49-71 27-14-14 80
Fax +49-71 27-14-14 95/-14 96
E-mail: ans-hi-line@hirschmann.de
http://www.hirschmann.com

China
Hirschmann Electronics
Pte Ltd Shanghai Office
Room 828, Summit Center
1088 West Yan An Road
Shanghai 200052
P.R. China
Tel. +86-21-62 07-66 37
Fax +86-21-62 07-68 37
E-mail: info@hirschmann.sh.cn

Switzerland
Hirschmann Electronics GmbH & Co. KG,
Neckartenzlingen
Zweigniederlassung Uster
Seestrasse 16
CH-8610 Uster
Tel. +41-44-9 05 82 82
Fax +41-44-9 05 82 89
E-mail: ans_ch@hirschmann.ch

France
Hirschmann Electronics S.A.S.
2, rue des Charpentiers
F-95330 Domont
Tel. +33-1-39 35 01 00
Fax +33-1-39 35 01 02
E-mail: ans@hirschmann.fr

UK
Hirschmann Electronics Ltd.
4303 Waterside Centre
Solihull Parkway
Birmingham Business Park
Birmingham
West Midlands
B37 7YN
Tel. +44-1 21-3 29-50 00
Fax +44-1 21-3 29-50 01
E-mail: enquiry@hirschmann.co.uk

Netherlands
Hirschmann Electronics B.V.
Pampuslaan 170
1382 JS WEESP
Postbus 92
NL-1380 AB Weesp
Tel. +31-2 94-4 62-5 91
Fax +31-2 94-4 62-5 54
E-mail: ans@hirschmann.nl

Spain
Hirschmann Electronics S.A.
Calle Trespaderne, 29
Edificio Barajas I, 2a Planta
E-28042 Madrid
Tel. +34-91-7 46 17 30
Fax +34-91-7 46 17 35
E-mail: hes@hirschmann.es

Hungary
Hirschmann Electronics Kft.
Rokolya u. 1-13
H-1131 Budapest
Tel. +36-1-3 49 41 99
Fax +36-1-3 29 84 53
E-mail: info@hirschmann.hu

USA
Hirschmann Electronics Inc.
20440 Century Boulevard, Suite 150
Germantown, MD 20874
Tel. +1-2 40 6 86 23 00
Fax +1-2 40 6 86 35 89
E-mail: ans@hirschmann-usa.com

Singapore
Hirschmann Electronics Pte. Ltd.
2 International Business Park #11-02/03
The Strategy Singapore 609930
Tel. +65-63 16 77 97
Fax +65-63 16 79 77
E-mail: hirschmann.svi@pacific.net.sg

For all other countries please dial Tel. +49-71 27-14-16 20
Contact address see Hirschmann Germany.