

AB-MICRO Sp. z o.o.
Poleczki 23
02-822 Warszawa, Poland
tel.: +48 22 545 15 00, fax: +48 22 643 14 21
APS - Automatic Power Switch - tel. +48 538 237 832
e-mail: wojciech.meller@abmicro.pl
GE Industrial Solutions – tel. +48 22 545 15 20
e-mail: gepc@abmicro.pl
www.szr-aps.pl, www.abmicro.pl, www.movicon.pl
www.eplan.pl, www.systemy-sterowania.pl
e-mail: abmicro@abmicro.com.pl

- GE KATOWICE Dept.
Wrocławska 54
40-217 Katowice
tel.: +48 600 477 407
- GE POZNAŃ Dept.
Wł. Węgorka 20
60-318 Poznań
tel.: +48 600 477 418
- GE GDAŃSK Dept.
Jałkowska Dolina 81
80-286 Gdańsk
tel.: +48 600 477 414



www.szr-aps.pl

AB-MICRO is a reliable supplier with certified
ISO 9001 Quality Management System



abmicro



Meller Electric
Automation

Automatic Power Switch



Automatic
Power
Switch

$I_n = 400-6400\text{ A}$

CHOICE OF SCHEME AND
OPERATING LOGIC

Automatic Power Switch

SELECTION
OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.



Automatic Power Switch

Advantages of the offered APS automation systems:

One proposal in many versions matching different requirements

- Enables the use of circuit breakers or disconnectors of the entire General Electric devices family of the Record Plus series, EntelliGuard * G, EntelliGuard G, EntelliGuard L in any configuration
- Implemented load shedding functions using circuit breakers, disconnectors and contactors
- Classic manual control using buttons included in the synoptics or control from a touchscreen terminal
- Option to choose assembly variant
 - » Classic system of connectors or version of an automation board with quick-swivel couplings, giving big time savings during replacement or upgrading of a working installation
- Choice of data access route, parameters recorded in APS and work visualization
 - » Operator terminal
 - » MODBUS RTU RS485 communication as standard
 - » Optional MODBUS ETHERNET TCP IP
 - » Optional secure remote access to data in the cloud
 - » Optional remote predictive diagnostics

High quality, proven design, technical support

- Components of reputable companies
- Quality control based on a full functional test of the set of switches and the automation system
- 18-months-warranty and after sales service
- Technical support during commissioning and staff training
- APS design reliability tested on over 750 working applications installed over the last 15 years on hundreds of facilities, including hospitals, airports, IT centers, office buildings, etc.

Control, prediction, security, reduction of power interruptions

- Standard – quality control of power supply parameters (presence of phases, consistency of spin direction, voltage control in the adjustable tolerance range)
- Standard – reading of all events handled by APS and creating an archive saved to memory (last 2000 events)
- Standard – reading events on the operator terminal and in the form of an Excel file to be downloaded to a USB stick
- Standard – APS automation equipped with active and passive interlocks, allowing to replace a mechanical interlock
- Standard – a safe control algorithm that prevents connecting sources to shorted circuits
- Standard – software with the function of APS automation parameter matching that limits power outages in unstable power grids
- Standard – APS parameterization and selection of program variants from the operator terminal

The projects currently being developed for systems of power supply applied in:

- **infrastructure:** airports, ports, railway stations, radar control systems, treatment plants, water supply;
- **public utilities:** hospitals, IT centers, office buildings, shopping centers, sports facilities;
- **industrial:** refineries, glass works, steel works, continuous production lines, etc.,

it must met high demands regarding reliability, transparency, simplicity in operation and maintenance, energy supply interruptions prevention, flexibility and ease of access to basic and critical data of the power supply system.

The joint project of **AB-MICRO** and **Meller Electric Automation** implements these requirements in the offered **Innovative Automatic Power Switch** series of solutions.

Based on many years of experience and hundreds of completed projects operating in industrial facilities, infrastructure and public utilities, these companies offer **Automatic Power Switch**, i.e., the power switching solutions for systems with two, three or four power sources.

CHOICE OF SCHEME AND
OPERATING LOGIC

Automatic Power Switch

SELECTION
OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.

<table><tr><th colspan="3">Source status</th><th colspan="2">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>Q1</th><th>Q2</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1</td><td>0</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></table> $P_{TR1} = P_{TR2}$ Full explicit reserve - transformer TR2	Source status			Device status			TR1	TR2	Q1	Q2	Primary	1	1/0	1	0	Reserve TR2	0	1	0	1	<table><tr><th colspan="3">Source status</th><th colspan="2">Device status</th></tr><tr><th></th><th>TR1</th><th>G</th><th>Q1</th><th>Q2</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1</td><td>0</td></tr><tr><td>Reserve G</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></table> $P_{TR1} = P_G$ Full explicit reserve - generator G	Source status			Device status			TR1	G	Q1	Q2	Primary	1	1/0	1	0	Reserve G	0	1	0	1	<table><tr><th colspan="3">Source status</th><th colspan="3">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>Q1</th><th>Q2</th><th>QZ1</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1</td><td>0</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td></tr></table> $P_{TR1} > P_{TR2}$ Partial explicit reserve - transformer TR2	Source status			Device status				TR1	TR2	Q1	Q2	QZ1	Primary	1	1/0	1	0	1	Reserve TR2	0	1	0	1	0
Source status			Device status																																																															
	TR1	TR2	Q1	Q2																																																														
Primary	1	1/0	1	0																																																														
Reserve TR2	0	1	0	1																																																														
Source status			Device status																																																															
	TR1	G	Q1	Q2																																																														
Primary	1	1/0	1	0																																																														
Reserve G	0	1	0	1																																																														
Source status			Device status																																																															
	TR1	TR2	Q1	Q2	QZ1																																																													
Primary	1	1/0	1	0	1																																																													
Reserve TR2	0	1	0	1	0																																																													
Catalog number of automation system	Catalog number of automation system	Catalog number of automation system																																																																
APS-2T-OMW1-00-T APS-2T-OMW1-00-TE APS-2T-MW1-00-T APS-2T-MW1-00-TE APS-2T-OMW1-0S-T APS-2T-OMW1-0S-TE APS-2T-MW1-0S-T APS-2T-MW1-0S-TE	APS-1T1G-OMW1-00-T APS-1T1G-OMW1-00-TE APS-1T1G-MW1-00-T APS-1T1G-MW1-00-TE APS-1T1G-OMW1-0S-T APS-1T1G-OMW1-0S-TE APS-1T1G-MW1-0S-T APS-1T1G-MW1-0S-TE	APS-2T1Z-OMW1-00-T APS-2T1Z-OMW1-00-TE APS-2T1Z-MW1-00-T APS-2T1Z-MW1-00-TE APS-2T1Z-OMW1-0S-T APS-2T1Z-OMW1-0S-TE APS-2T1Z-MW1-0S-T APS-2T1Z-MW1-0S-TE																																																																
APS-2T-OMW1-00-T APS-2T-OMW1-00-TE APS-2T-MW1-00-T APS-2T-MW1-00-TE APS-2T-OMW1-0S-T APS-2T-OMW1-0S-TE APS-2T-MW1-0S-T APS-2T-MW1-0S-TE	APS-1T1G-OMW1-00-T APS-1T1G-OMW1-00-TE APS-1T1G-MW1-00-T APS-1T1G-MW1-00-TE APS-1T1G-OMW1-0S-T APS-1T1G-OMW1-0S-TE APS-1T1G-MW1-0S-T APS-1T1G-MW1-0S-TE	APS-2T1Z-OMW1-00-T APS-2T1Z-OMW1-00-TE APS-2T1Z-MW1-00-T APS-2T1Z-MW1-00-TE APS-2T1Z-OMW1-0S-T APS-2T1Z-OMW1-0S-TE APS-2T1Z-MW1-0S-T APS-2T1Z-MW1-0S-TE																																																																

Description of symbols in logic table	Q1, Q2, Q3, Q12, Q23 – circuit breakers, disconnectors QZ1, QZ2, QZ3 – circuit breaker, disconnector, contactor TR1, TR2 – transformer G – generator 1 – voltage present, device closed 0 – no voltage, device open 1/OK – status configuration from the operator terminal 1/0 – voltage is either present or absent
---------------------------------------	---

<table><tr><th colspan="2">Source status</th><th colspan="4">Device status</th></tr><tr><th></th><th>TR1</th><th>G</th><th>Q1</th><th>Q2</th><th>QZ1</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1</td><td>0</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td></tr></table> $P_{TR1} > P_G$ Partial explicit reserve - generator G	Source status		Device status					TR1	G	Q1	Q2	QZ1	Primary	1	1/0	1	0	1	Reserve G	0	1	0	1	0	<table><tr><th colspan="2">Source status</th><th colspan="4">Device status</th></tr><tr><th></th><th>TR1</th><th>G</th><th>Q1</th><th>Q2</th><th>QZ1</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1</td><td>0</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td></tr></table> $P_{TR1} = P_G$ Full explicit reserve - generator G	Source status		Device status					TR1	G	Q1	Q2	QZ1	Primary	1	1/0	1	0	1	Reserve G	0	1	0	1	1	<table><tr><th colspan="2">Source status</th><th colspan="4">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>Q1</th><th>Q2</th><th>QZ1</th><th>QZ2</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td></tr></table> $P_{TR1} > P_{TR2}$ Partial explicit reserve - transformer TR2	Source status		Device status					TR1	TR2	Q1	Q2	QZ1	QZ2	Primary	1	1/0	1	0	1	1	Reserve TR2	0	1	0	1	0	0
Source status		Device status																																																																											
	TR1	G	Q1	Q2	QZ1																																																																								
Primary	1	1/0	1	0	1																																																																								
Reserve G	0	1	0	1	0																																																																								
Source status		Device status																																																																											
	TR1	G	Q1	Q2	QZ1																																																																								
Primary	1	1/0	1	0	1																																																																								
Reserve G	0	1	0	1	1																																																																								
Source status		Device status																																																																											
	TR1	TR2	Q1	Q2	QZ1	QZ2																																																																							
Primary	1	1/0	1	0	1	1																																																																							
Reserve TR2	0	1	0	1	0	0																																																																							
Catalog number of automation system	Catalog number of automation system	Catalog number of automation system																																																																											
APS-1T1G1Z-OMW1-00-T APS-1T1G1Z-OMW1-00-TE APS-1T1G1Z-MW1-00-T APS-1T1G1Z-MW1-00-TE APS-1T1G1Z-OMW1-0S-T APS-1T1G1Z-OMW1-0S-TE APS-1T1G1Z-MW1-0S-T APS-1T1G1Z-MW1-0S-TE	APS-1T1G1Z-OMW1-10-T APS-1T1G1Z-OMW1-10-TE APS-1T1G1Z-MW1-10-T APS-1T1G1Z-MW1-10-TE APS-1T1G1Z-OMW1-1S-T APS-1T1G1Z-OMW1-1S-TE APS-1T1G1Z-MW1-1S-T APS-1T1G1Z-MW1-1S-TE	APS-2T2Z-OMW1-00-T APS-2T2Z-OMW1-00-TE APS-2T2Z-MW1-00-T APS-2T2Z-MW1-00-TE APS-2T2Z-OMW1-0S-T APS-2T2Z-OMW1-0S-TE APS-2T2Z-MW1-0S-T APS-2T2Z-MW1-0S-TE																																																																											
APS-1T1G1Z-OMW1-00-T APS-1T1G1Z-OMW1-00-TE APS-1T1G1Z-MW1-00-T APS-1T1G1Z-MW1-00-TE APS-1T1G1Z-OMW1-0S-T APS-1T1G1Z-OMW1-0S-TE APS-1T1G1Z-MW1-0S-T APS-1T1G1Z-MW1-0S-TE	APS-1T1G1Z-OMW1-10-T APS-1T1G1Z-OMW1-10-TE APS-1T1G1Z-MW1-10-T APS-1T1G1Z-MW1-10-TE APS-1T1G1Z-OMW1-1S-T APS-1T1G1Z-OMW1-1S-TE APS-1T1G1Z-MW1-1S-T APS-1T1G1Z-MW1-1S-TE	APS-2T2Z-OMW1-00-T APS-2T2Z-OMW1-00-TE APS-2T2Z-MW1-00-T APS-2T2Z-MW1-00-TE APS-2T2Z-OMW1-0S-T APS-2T2Z-OMW1-0S-TE APS-2T2Z-MW1-0S-T APS-2T2Z-MW1-0S-TE																																																																											

All APS (AUTOMATIC POWER SWITCH) systems are equipped with a RS485 communication port with MODBUS transmission protocol enabling the visualization of the system operation.

Choice of system version with ETHERNET MODBUS TCP/IP communication by selecting the APS type with the TE letters at the end of the reference.

As standard, all APS automation systems are equipped with MAGELIS touchscreen terminal (3.7") for local visualization – marked with the letter T in the reference code.

It is possible to order the APS automation system with a bigger touchscreen terminal (5.7", 7" or 10.4" screen diagonal) – if you choose such non-standard device, please specify the type of terminal you want to order.

In the case of non-standard needs for the implementation of customized APS automation systems, please contact your sales representative or contact us at +48 510 508 821.

AB MICRO & MELLER ELECTRIC AUTOMATION

CHOICE OF SCHEME AND
OPERATING LOGIC

Automatic Power Switch

SELECTION
OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.

$P_{TR1} > P_G$
Partial explicit reserve - generator G

$P_{TR1} = P_G$
Full explicit reserve - generator G

$P_{TR1} > P_{TR2}$
Partial explicit reserve - transformer TR2

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-1T1G2Z-OMW1-00-T APS-1T1G2Z-OMW1-00-TE APS-1T1G2Z-MW1-00-T APS-1T1G2Z-MW1-00-TE APS-1T1G2Z-OMW1-0S-T APS-1T1G2Z-OMW1-0S-TE APS-1T1G2Z-MW1-0S-T APS-1T1G2Z-MW1-0S-TE	APS-1T1G2Z-OMW1-10-T APS-1T1G2Z-OMW1-10-TE APS-1T1G2Z-MW1-10-T APS-1T1G2Z-MW1-10-TE APS-1T1G2Z-OMW1-1S-T APS-1T1G2Z-OMW1-1S-TE APS-1T1G2Z-MW1-1S-T APS-1T1G2Z-MW1-1S-TE	APS-2T1S-OMW1-00-T APS-2T1S-OMW1-00-TE APS-2T1S-MW1-10-T APS-2T1S-MW1-00-TE APS-2T1S-MW1-00-T APS-2T1S-OMW1-0S-T APS-2T1S-OMW1-0S-TE APS-2T1S-MW1-0S-T APS-2T1S-MW1-0S-TE
APS-1T1G2Z-OMW1-00-T APS-1T1G2Z-OMW1-00-TE APS-1T1G2Z-MW1-00-T APS-1T1G2Z-MW1-00-TE APS-1T1G2Z-OMW1-0S-T APS-1T1G2Z-OMW1-0S-TE APS-1T1G2Z-MW1-0S-T APS-1T1G2Z-MW1-0S-TE	APS-1T1G2Z-OMW1-10-T APS-1T1G2Z-OMW1-10-TE APS-1T1G2Z-MW1-10-T APS-1T1G2Z-MW1-10-TE APS-1T1G2Z-OMW1-1S-T APS-1T1G2Z-OMW1-1S-TE APS-1T1G2Z-MW1-1S-T APS-1T1G2Z-MW1-1S-TE	APS-2T1S-OMW1-00-T APS-2T1S-OMW1-00-TE APS-2T1S-MW1-00-T APS-2T1S-MW1-00-TE APS-2T1S-OMW1-0S-T APS-2T1S-OMW1-0S-TE APS-2T1S-MW1-0S-T APS-2T1S-MW1-0S-TE

The principle of reading the code contained in the name of the APS automation system
Example of a catalog code: APS-2T1G2S3Z-MW3-0S-TE
APS – Automatic Power Switch
2T – Number of transformer sources: 2
1G – Number of generator sources: 1
2S – Number of couplings: 2
3Z – Number of dumps: 3
MW3 – Automation board version: M – quick connectors, W3 – program version
0S – Logic table version: 0, S – APZ board with synoptic elements
TE – Version of the board delivery with operator terminal and RS485 MODBUS RTU communication "T", ETHERNET TCP / IP "E" (option)

6 • www.szr-aps.pl •

$P_{TR1} > P_{TR2}$
Full hidden reserve - transformer TR1
Partial hidden reserve - transformer TR2

$P_{RT1} = P_{TR2}$
Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2

$P_{RT1} = P_{TR2}$
Full explicit reserve - transformer TR1
Full explicit reserve - transformer TR2

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-2T1S-OMW1-10-T APS-2T1S-OMW1-10-TE APS-2T1S-MW1-10-T APS-2T1S-MW1-10-TE APS-2T1S-MW1-10-T APS-2T1S-OMW1-1S-T APS-2T1S-OMW1-1S-TE APS-2T1S-MW1-1S-T APS-2T1S-MW1-1S-TE	APS-2T1S-OMW1-20-T APS-2T1S-OMW1-20-TE APS-2T1S-MW1-20-T APS-2T1S-MW1-20-TE APS-2T1S-MW1-20-T APS-2T1S-OMW1-2S-T APS-2T1S-OMW1-2S-TE APS-2T1S-MW1-2S-T APS-2T1S-MW1-2S-TE	APS-2T1S-OMW1-30-T APS-2T1S-OMW1-30-TE APS-2T1S-MW1-30-T APS-2T1S-MW1-30-TE APS-2T1S-OMW1-3S-T APS-2T1S-OMW1-3S-TE APS-2T1S-MW1-3S-T APS-2T1S-MW1-3S-TE
APS-2T1S-OMW1-10-T APS-2T1S-OMW1-10-TE APS-2T1S-MW1-10-T APS-2T1S-MW1-10-TE APS-2T1S-MW1-10-T APS-2T1S-OMW1-1S-T APS-2T1S-OMW1-1S-TE APS-2T1S-MW1-1S-T APS-2T1S-MW1-1S-TE	APS-2T1S-OMW1-20-T APS-2T1S-OMW1-20-TE APS-2T1S-MW1-20-T APS-2T1S-MW1-20-TE APS-2T1S-MW1-20-T APS-2T1S-OMW1-2S-T APS-2T1S-OMW1-2S-TE APS-2T1S-MW1-2S-T APS-2T1S-MW1-2S-TE	APS-2T1S-OMW1-30-T APS-2T1S-OMW1-30-TE APS-2T1S-MW1-30-T APS-2T1S-MW1-30-TE APS-2T1S-OMW1-3S-T APS-2T1S-OMW1-3S-TE APS-2T1S-MW1-3S-T APS-2T1S-MW1-3S-TE

The principle of reading the code contained in the name of the APS automation system
Example of a catalog code: APS-1T1G1S-OMW1-10-T
APS – Automatic Power Switch
1T – Number of transformer sources: 1
1G – Number of generator sources: 1
1S – Number of couplings: 1
OMW1 – Automation board version: OM – standard connectors, W1 – program version
10 – Logic table version: 1, 0 – APZ board without synoptic elements
T – Version of the board delivery with operator terminal and RS485 MODBUS RTU communication (option)

• www.szr-aps.pl • 7

CHOICE OF SCHEME AND
OPERATING LOGIC

Automatic Power Switch

SELECTION
OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.

Source status			Device status				
	TR1	TR2	Q1	Q2	Q12	QZ1	
Primary	1	1/0	1	0	1	1	
Reserve TR2	0	1	0	1	1	0	

$P_{TR1} > P_{TR2}$

Full explicit reserve - transformer TR1
Partial explicit reserve - transformer TR2

Source status			Device status				
	TR1	TR2	Q1	Q2	Q12	QZ1	
Primary	1	1	1	1	0	1	
Reserve TR1	1	0	1	0	1	0	
Reserve TR2	0	1	0	1	1	0	

$P_{TR1} = P_{TR2}$

Partial hidden reserve - transformer TR1
Partial hidden reserve - transformer TR2

Source status			Device status				
	TR1	TR2	Q1	Q2	Q12	QZ1	
Primary	1	1	1	1	0	1	
Reserve TR1	1	0	1	0	1	1	
Reserve TR2	0	1	0	1	1	0	

$P_{TR1} > P_{TR2}$

Full hidden reserve - transformer TR1
Partial hidden reserve - transformer TR2

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-2T1S1Z-OMW1-00-T APS-2T1S1Z-OMW1-00-TE APS-2T1S1Z-MW1-00-T APS-2T1S1Z-MW1-00-TE APS-2T1S1Z-OMW1-0S-T APS-2T1S1Z-OMW1-0S-TE APS-2T1S1Z-MW1-0S-T APS-2T1S1Z-MW1-0S-TE	APS-2T1S1Z-OMW1-10-T APS-2T1S1Z-OMW1-10-TE APS-2T1S1Z-MW1-10-T APS-2T1S1Z-MW1-10-TE APS-2T1S1Z-OMW1-1S-T APS-2T1S1Z-OMW1-1S-TE APS-2T1S1Z-MW1-1S-T APS-2T1S1Z-MW1-1S-TE	APS-2T1S1Z-OMW1-20-T APS-2T1S1Z-OMW1-20-TE APS-2T1S1Z-MW1-20-T APS-2T1S1Z-MW1-20-TE APS-2T1S1Z-OMW1-2S-T APS-2T1S1Z-OMW1-2S-TE APS-2T1S1Z-MW1-2S-T APS-2T1S1Z-MW1-2S-TE
APS-2T1S1Z-OMW1-00-T APS-2T1S1Z-OMW1-00-TE APS-2T1S1Z-MW1-00-T APS-2T1S1Z-MW1-00-TE APS-2T1S1Z-OMW1-1S-T APS-2T1S1Z-OMW1-1S-TE APS-2T1S1Z-MW1-1S-T APS-2T1S1Z-MW1-1S-TE	APS-2T1S1Z-OMW1-10-T APS-2T1S1Z-OMW1-10-TE APS-2T1S1Z-MW1-10-T APS-2T1S1Z-MW1-10-TE APS-2T1S1Z-OMW1-1S-T APS-2T1S1Z-OMW1-1S-TE APS-2T1S1Z-MW1-1S-T APS-2T1S1Z-MW1-1S-TE	APS-2T1S1Z-OMW1-20-T APS-2T1S1Z-OMW1-20-TE APS-2T1S1Z-MW1-20-T APS-2T1S1Z-MW1-20-TE APS-2T1S1Z-OMW1-2S-T APS-2T1S1Z-OMW1-2S-TE APS-2T1S1Z-MW1-2S-T APS-2T1S1Z-MW1-2S-TE

Source status			Device status					
	TR1	TR2	Q1	Q2	Q12	QZ1	QZ2	
Primary	1	1/0	1	0	1	1	1	
Reserve TR2	0	1	0	1	1	0	0	

$P_{TR1} > P_{TR2}$

Full explicit reserve - transformer TR1
Partial explicit reserve - transformer TR2

Source status			Device status					
	TR1	TR2	Q1	Q2	Q12	QZ1	QZ2	
Primary	1	1	1	1	0	1	1	
Reserve TR1	1	0	1	0	1	1	1	
Reserve TR2	0	1	0	1	1	0	0	

$P_{TR1} > P_{TR2}$

Full hidden reserve - transformer TR1
Partial hidden reserve - transformer TR2

Source status			Device status					
	TR1	TR2	Q1	Q2	Q12	QZ1	QZ2	
Primary	1	1	1	1	0	1	1	
Reserve TR1	1	0	1	0	1	0	0	
Reserve TR2	0	1	0	1	1	0	0	

$P_{TR1} = P_{TR2}$

Partial hidden reserve - transformer TR1
Partial hidden reserve - transformer TR2

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-2T1S2Z-OMW1-00-T APS-2T1S2Z-OMW1-00-TE APS-2T1S2Z-MW1-00-T APS-2T1S2Z-MW1-00-TE APS-2T1S2Z-MW1-10-TE APS-2T1S2Z-OMW1-0S-T APS-2T1S2Z-OMW1-0S-TE APS-2T1S2Z-MW1-0S-T APS-2T1S2Z-MW1-0S-TE	APS-2T1S2Z-OMW1-10-T APS-2T1S2Z-OMW1-10-TE APS-2T1S2Z-MW1-10-T APS-2T1S2Z-MW1-10-TE APS-2T1S2Z-MW1-1S-T APS-2T1S2Z-OMW1-1S-TE APS-2T1S2Z-MW1-1S-T APS-2T1S2Z-MW1-1S-TE	APS-2T1S2Z-OMW1-20-T APS-2T1S2Z-OMW1-20-TE APS-2T1S2Z-MW1-20-T APS-2T1S2Z-MW1-20-TE APS-2T1S2Z-MW1-2S-T APS-2T1S2Z-OMW1-2S-TE APS-2T1S2Z-MW1-2S-T APS-2T1S2Z-MW1-2S-TE
APS-2T1S2Z-OMW1-00-T APS-2T1S2Z-OMW1-00-TE APS-2T1S2Z-MW1-00-T APS-2T1S2Z-MW1-00-TE APS-2T1S2Z-MW1-10-TE APS-2T1S2Z-OMW1-0S-T APS-2T1S2Z-OMW1-0S-TE APS-2T1S2Z-MW1-0S-T APS-2T1S2Z-MW1-0S-TE	APS-2T1S2Z-OMW1-10-T APS-2T1S2Z-OMW1-10-TE APS-2T1S2Z-MW1-10-T APS-2T1S2Z-MW1-10-TE APS-2T1S2Z-MW1-1S-T APS-2T1S2Z-OMW1-1S-TE APS-2T1S2Z-MW1-1S-T APS-2T1S2Z-MW1-1S-TE	APS-2T1S2Z-OMW1-20-T APS-2T1S2Z-OMW1-20-TE APS-2T1S2Z-MW1-20-T APS-2T1S2Z-MW1-20-TE APS-2T1S2Z-MW1-2S-T APS-2T1S2Z-OMW1-2S-TE APS-2T1S2Z-MW1-2S-T APS-2T1S2Z-MW1-2S-TE

CHOICE OF SCHEME AND OPERATING LOGIC

Automatic Power Switch

SELECTION OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs.
LG... 400-4000 A	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs.
LG... 400-4000 A	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs.
	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs.
LG... 400-4000 A	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs.
	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Trip signaling contact NO Control coil 230 VAC	1 pc. 1 pc.

Source status			Device status		
	TR1	G	Q1	Q2	Q12
Primary	1	1/0	1	0	1
Reserve G	0	1	0	1	0

$P_{TR1} > P_G$
Partial explicit reserve - generator G

Source status			Device status			
	TR1	G	Q1	Q2	Q12	QZ1
Primary	1	1/0	1	0	1	1
Reserve G	0	1	0	1	1	1

$P_{TR1} = P_G$
Full explicit reserve - generator G

Source status			Device status				
	TR1	G	Q1	Q2	Q12	QZ1	
Primary	1	1/0	1	0	1	1	
Reserve G	0	1	0	1	1	0	

$P_{TR1} > P_G$
Partial explicit reserve - generator G

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-1T1G1S-OMW1-00-T APS-1T1G1S-OMW1-00-TE APS-1T1G1S-MW1-00-T APS-1T1G1S-MW1-10-TE APS-1T1G1S-OMW1-0S-T APS-1T1G1S-OMW1-0S-TE APS-1T1G1S-MW1-0S-T APS-1T1G1S-MW1-0S-TE	APS-1T1G1S-OMW1-10-T APS-1T1G1S-OMW1-10-TE APS-1T1G1S-MW1-10-T APS-1T1G1S-MW1-10-TE APS-1T1G1S-OMW1-1S-T APS-1T1G1S-OMW1-1S-TE APS-1T1G1S-MW1-1S-T APS-1T1G1S-MW1-1S-TE	APS-1T1G1S1Z-OMW1-00-T APS-1T1G1S1Z-OMW1-00-TE APS-1T1G1S1Z-MW1-00-T APS-1T1G1S1Z-MW1-10-TE APS-1T1G1S1Z-MW1-0S-T APS-1T1G1S1Z-OMW1-0S-TE APS-1T1G1S1Z-MW1-0S-T APS-1T1G1S1Z-MW1-1S-TE
APS-1T1G1S-OMW1-00-T APS-1T1G1S-OMW1-00-TE APS-1T1G1S-MW1-00-T APS-1T1G1S-MW1-10-TE APS-1T1G1S-OMW1-0S-T APS-1T1G1S-OMW1-0S-TE APS-1T1G1S-MW1-0S-T APS-1T1G1S-MW1-0S-TE	APS-1T1G1S-OMW1-10-T APS-1T1G1S-OMW1-10-TE APS-1T1G1S-MW1-10-T APS-1T1G1S-MW1-10-TE APS-1T1G1S-OMW1-1S-T APS-1T1G1S-OMW1-1S-TE APS-1T1G1S-MW1-1S-T APS-1T1G1S-MW1-1S-TE	APS-1T1G1S1Z-OMW1-00-T APS-1T1G1S1Z-OMW1-00-TE APS-1T1G1S1Z-MW1-00-T APS-1T1G1S1Z-MW1-10-TE APS-1T1G1S1Z-MW1-0S-T APS-1T1G1S1Z-OMW1-0S-TE APS-1T1G1S1Z-MW1-0S-T APS-1T1G1S1Z-MW1-1S-TE

Source status			Device status				
	TR1	G	Q1	Q2	Q12	QZ1	
Primary	1	1/0	1	0	1	1	
Reserve G	0	1	0	1	1	1	

$P_{TR1} = P_G$
Full explicit reserve - generator G

Source status			Device status					
	TR1	G	Q1	Q2	Q12	QZ1	QZ2	
Primary	1	1/0	1	0	1	1	1	
Reserve G	0	1	0	1	1	0	0	

$P_{TR1} > P_G$
Partial explicit reserve - generator G

Source status			Device status					
	TR1	G	Q1	Q2	Q12	QZ1	QZ2	
Primary	1	1/0	1	0	1	1	1	
Reserve G	0	1	0	1	1	1	1	

$P_{TR1} = P_G$
Full explicit reserve - generator G

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-1T1G1S1Z-OMW1-10-T APS-1T1G1S1Z-OMW1-10-TE APS-1T1G1S1Z-MW1-10-T APS-1T1G1S1Z-MW1-10-TE APS-1T1G1S1Z-MW1-0S-T APS-1T1G1S1Z-OMW1-0S-TE APS-1T1G1S1Z-OMW1-1S-TE APS-1T1G1S1Z-MW1-1S-T	APS-1T1G1S2Z-OMW1-00-T APS-1T1G1S2Z-OMW1-00-TE APS-1T1G1S2Z-MW1-00-T APS-1T1G1S2Z-MW1-10-TE APS-1T1G1S2Z-MW1-0S-T APS-1T1G1S2Z-OMW1-0S-TE APS-1T1G1S2Z-OMW1-1S-TE APS-1T1G1S2Z-MW1-0S-T	APS-1T1G1S2Z-OMW1-10-T APS-1T1G1S2Z-OMW1-10-TE APS-1T1G1S2Z-MW1-10-T APS-1T1G1S2Z-MW1-10-TE APS-1T1G1S2Z-OMW1-1S-T APS-1T1G1S2Z-OMW1-1S-TE APS-1T1G1S2Z-MW1-1S-T
APS-1T1G1S1Z-OMW1-10-T APS-1T1G1S1Z-OMW1-10-TE APS-1T1G1S1Z-MW1-10-T APS-1T1G1S1Z-MW1-10-TE APS-1T1G1S1Z-MW1-0S-T APS-1T1G1S1Z-OMW1-0S-TE APS-1T1G1S1Z-OMW1-1S-TE APS-1T1G1S1Z-MW1-1S-T	APS-1T1G1S2Z-OMW1-00-T APS-1T1G1S2Z-OMW1-00-TE APS-1T1G1S2Z-MW1-00-T APS-1T1G1S2Z-MW1-10-TE APS-1T1G1S2Z-OMW1-0S-T APS-1T1G1S2Z-OMW1-0S-TE APS-1T1G1S2Z-OMW1-1S-TE APS-1T1G1S2Z-MW1-0S-T	APS-1T1G1S2Z-OMW1-10-T APS-1T1G1S2Z-OMW1-10-TE APS-1T1G1S2Z-MW1-10-T APS-1T1G1S2Z-MW1-10-TE APS-1T1G1S2Z-OMW1-1S-T APS-1T1G1S2Z-OMW1-1S-TE APS-1T1G1S2Z-MW1-1S-T

CHOICE OF SCHEME AND OPERATING LOGIC

Automatic Power Switch

SELECTION OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs.
LG... 400-4000 A	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs.
LG... 400-4000 A	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs.
	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs.
	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc.
	Trip signaling contact NO	1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.

Source status	TR1	TR2	Device status			
			Q1	Q2	Q12	Q21
Primary	1	1	1	1	0	0
Reserve TR1	1	0	1	0	1	0
Reserve TR2	0	1	0	1	0	1

$P_{TR1} = P_{TR2}$

Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2

Source status	TR1	TR2	Q1	Q2	Q12	Q21
Primary	1	1/0	1	0	1	0
Reserve TR2	0	1	0	1	0	1

$P_{TR1} = P_{TR2}$

Full explicit reserve - transformer TR1
Full explicit reserve - transformer TR2

Source status	TR1	TR2	Q1	Q2	Q12	Q21	QZ1
Primary	1	1	1	1	0	0	1
Reserve TR1	1	0	1	0	1	0	1
Reserve TR2	0	1	0	1	0	1	0

$P_{TR1} > P_{TR2}$

Full hidden reserve - transformer TR1
Partial hidden reserve - transformer TR2

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-2T2S-OMW1-00-T APS-2T2S-OMW1-00-TE APS-2T2S-MW1-10-T APS-2T2S-MW1-10-TE APS-2T2S-MW1-00-T APS-2T2S-MW1-10-TE APS-2T2S-OMW1-0S-T APS-2T2S-OMW1-0S-TE APS-2T2S-MW1-0S-T APS-2T2S-MW1-0S-TE	APS-2T2S-OMW1-10-T APS-2T2S-OMW1-10-TE APS-2T2S-MW1-10-T APS-2T2S-MW1-10-TE APS-2T2S-MW1-00-T APS-2T2S-MW1-10-TE APS-2T2S-OMW1-1S-T APS-2T2S-OMW1-0S-TE APS-2T2S-MW1-1S-T APS-2T2S-MW1-1S-TE	APS-2T2S1Z-OMW1-00-T APS-2T2S1Z-OMW1-00-TE APS-2T2S1Z-MW1-10-T APS-2T2S1Z-MW1-10-TE APS-2T2S1Z-MW1-00-T APS-2T2S1Z-MW1-10-TE APS-2T2S1Z-OMW1-0S-T APS-2T2S1Z-OMW1-0S-TE APS-2T2S1Z-MW1-0S-T APS-2T2S1Z-MW1-0S-TE
APS-2T2S-OMW1-00-T APS-2T2S-OMW1-00-TE APS-2T2S-MW1-10-T APS-2T2S-MW1-10-TE APS-2T2S-MW1-00-T APS-2T2S-MW1-10-TE APS-2T2S-OMW1-0S-T APS-2T2S-OMW1-0S-TE APS-2T2S-MW1-0S-T APS-2T2S-MW1-0S-TE	APS-2T2S-OMW1-10-T APS-2T2S-OMW1-10-TE APS-2T2S-MW1-10-T APS-2T2S-MW1-10-TE APS-2T2S-MW1-00-T APS-2T2S-MW1-10-TE APS-2T2S-OMW1-1S-T APS-2T2S-OMW1-0S-TE APS-2T2S-MW1-1S-T APS-2T2S-MW1-1S-TE	APS-2T2S1Z-OMW1-00-T APS-2T2S1Z-OMW1-00-TE APS-2T2S1Z-MW1-10-T APS-2T2S1Z-MW1-10-TE APS-2T2S1Z-MW1-00-T APS-2T2S1Z-MW1-10-TE APS-2T2S1Z-OMW1-0S-T APS-2T2S1Z-OMW1-0S-TE APS-2T2S1Z-MW1-0S-T APS-2T2S1Z-MW1-0S-TE

APS

Automatic Power Switch

12 • www.szr-aps.pl •

Source status	TR1	TR2	Q1	Q2	Q12	Q21	QZ1
Primary	1	1/0	1	0	1	0	1
Reserve TR2	0	1	0	1	0	1	0

$P_{TR1} > P_{TR2}$

Full explicit reserve - transformer TR1
Partial explicit reserve - transformer TR2

Source status	TR1	TR2	Q1	Q2	Q12	Q21	QZ1	QZ2
Primary	1	1	1	1	0	0	1	1
Reserve TR1	1	0	1	0	1	0	1	1
Reserve TR2	0	1	0	1	0	1	0	0

$P_{TR1} > P_{TR2}$

Full hidden reserve - transformer TR1
Partial hidden reserve - transformer TR2

Source status	TR1	TR2	Q1	Q2	Q12	Q21	QZ1	QZ2
Primary	1	1	1	1	0	0	1	1
Reserve TR1	1	0	1	0	1	0	1	0
Reserve TR2	0	1	0	1	0	1	0	0

$P_{TR1} > P_{TR2}$

Partial hidden reserve - transformer TR1
Partial hidden reserve - transformer TR2

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-2T2S1Z-OMW1-10-T APS-2T2S1Z-OMW1-10-TE APS-2T2S1Z-MW1-10-T APS-2T2S1Z-MW1-10-TE APS-2T2S1Z-MW1-00-T APS-2T2S1Z-MW1-10-TE APS-2T2S1Z-OMW1-1S-T APS-2T2S1Z-OMW1-0S-TE APS-2T2S1Z-MW1-0S-T APS-2T2S1Z-MW1-1S-T APS-2T2S1Z-MW1-1S-TE	APS-2T2S2Z-OMW1-00-T APS-2T2S2Z-OMW1-00-TE APS-2T2S2Z-MW1-10-T APS-2T2S2Z-MW1-10-TE APS-2T2S2Z-MW1-00-T APS-2T2S2Z-MW1-10-TE APS-2T2S2Z-OMW1-0S-T APS-2T2S2Z-OMW1-0S-TE APS-2T2S2Z-MW1-0S-T APS-2T2S2Z-MW1-1S-T APS-2T2S2Z-MW1-1S-TE	APS-2T2S2Z-OMW1-10-T APS-2T2S2Z-OMW1-10-TE APS-2T2S2Z-MW1-10-T APS-2T2S2Z-MW1-10-TE APS-2T2S2Z-MW1-00-T APS-2T2S2Z-MW1-10-TE APS-2T2S2Z-OMW1-1S-T APS-2T2S2Z-OMW1-0S-TE APS-2T2S2Z-MW1-0S-T APS-2T2S2Z-MW1-1S-T APS-2T2S2Z-MW1-1S-TE
APS-2T2S1Z-OMW1-10-T APS-2T2S1Z-OMW1-10-TE APS-2T2S1Z-MW1-10-T APS-2T2S1Z-MW1-10-TE APS-2T2S1Z-MW1-00-T APS-2T2S1Z-MW1-10-TE APS-2T2S1Z-OMW1-1S-T APS-2T2S1Z-OMW1-0S-TE APS-2T2S1Z-MW1-0S-T APS-2T2S1Z-MW1-1S-T APS-2T2S1Z-MW1-1S-TE	APS-2T2S2Z-OMW1-00-T APS-2T2S2Z-OMW1-00-TE APS-2T2S2Z-MW1-10-T APS-2T2S2Z-MW1-10-TE APS-2T2S2Z-MW1-00-T APS-2T2S2Z-MW1-10-TE APS-2T2S2Z-OMW1-0S-T APS-2T2S2Z-OMW1-0S-TE APS-2T2S2Z-MW1-0S-T APS-2T2S2Z-MW1-1S-T APS-2T2S2Z-MW1-1S-TE	APS-2T2S2Z-OMW1-10-T APS-2T2S2Z-OMW1-10-TE APS-2T2S2Z-MW1-10-T APS-2T2S2Z-MW1-10-TE APS-2T2S2Z-MW1-00-T APS-2T2S2Z-MW1-10-TE APS-2T2S2Z-OMW1-1S-T APS-2T2S2Z-OMW1-0S-TE APS-2T2S2Z-MW1-0S-T APS-2T2S2Z-MW1-1S-T APS-2T2S2Z-MW1-1S-TE

APS

Automatic Power Switch

• www.szr-aps.pl • 13

CHOICE OF SCHEME AND
OPERATING LOGIC

Automatic Power Switch

SELECTION
OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.

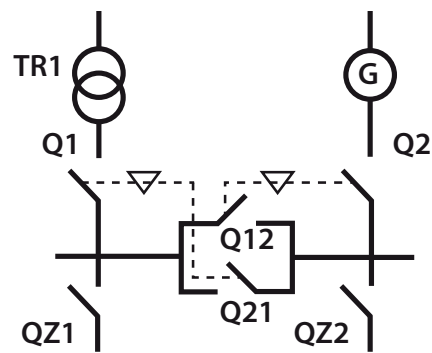
<table><tr><th>Source status</th><th>TR1</th><th>TR2</th><th>Q1</th><th>Q2</th><th>Q12</th><th>Q21</th><th>QZ1</th><th>QZ2</th></tr><tr><td>Primary</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve TR1</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td></tr></table> $P_{TR1} = P_{TR2}$ Partial hidden reserve - transformer TR1 Partial hidden reserve - transformer TR2	Source status	TR1	TR2	Q1	Q2	Q12	Q21	QZ1	QZ2	Primary	1	1	1	1	0	0	1	1	Reserve TR1	1	0	1	0	1	0	0	0	Reserve TR2	0	1	0	1	0	1	0	0	<table><tr><th>Source status</th><th>TR1</th><th>TR2</th><th>Q1</th><th>Q2</th><th>Q12</th><th>Q21</th><th>QZ1</th><th>QZ2</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td></tr></table> $P_{TR1} > P_{TR2}$ Full explicit reserve - transformer TR1 Partial explicit reserve - transformer TR2	Source status	TR1	TR2	Q1	Q2	Q12	Q21	QZ1	QZ2	Primary	1	1/0	1	0	1	0	1	1	Reserve TR2	0	1	0	1	0	1	0	0	<table><tr><th>Source status</th><th>TR1</th><th>G</th><th>Q1</th><th>Q2</th><th>Q12</th><th>QZ1</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1</td><td>0</td><td>1</td><td>0</td></tr><tr><td>Reserve G</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></table> $P_{TR1} = P_G$ Full explicit reserve - generator G	Source status	TR1	G	Q1	Q2	Q12	QZ1	Primary	1	1/0	1	0	1	0	Reserve G	0	1	0	1	0	1
Source status	TR1	TR2	Q1	Q2	Q12	Q21	QZ1	QZ2																																																																														
Primary	1	1	1	1	0	0	1	1																																																																														
Reserve TR1	1	0	1	0	1	0	0	0																																																																														
Reserve TR2	0	1	0	1	0	1	0	0																																																																														
Source status	TR1	TR2	Q1	Q2	Q12	Q21	QZ1	QZ2																																																																														
Primary	1	1/0	1	0	1	0	1	1																																																																														
Reserve TR2	0	1	0	1	0	1	0	0																																																																														
Source status	TR1	G	Q1	Q2	Q12	QZ1																																																																																
Primary	1	1/0	1	0	1	0																																																																																
Reserve G	0	1	0	1	0	1																																																																																
Catalog number of automation system	Catalog number of automation system	Catalog number of automation system																																																																																				
APS-2T2S2Z-OMW1-20-T APS-2T2S2Z-OMW1-20-TE APS-2T2S2Z-MW1-20-T APS-2T2S2Z-MW1-20-TE APS-2T2S2Z-OMW1-2S-T APS-2T2S2Z-OMW1-2S-TE APS-2T2S2Z-MW1-2S-T APS-2T2S2Z-MW1-2S-TE	APS-2T2S2Z-OMW1-30-T APS-2T2S2Z-OMW1-30-TE APS-2T2S2Z-MW1-30-T APS-2T2S2Z-MW1-30-TE APS-2T2S2Z-OMW1-3S-T APS-2T2S2Z-OMW1-3S-TE APS-2T2S2Z-MW1-3S-T APS-2T2S2Z-MW1-3S-TE	APS-1T1G2S-OMW1-00-T APS-1T1G2S-OMW1-00-TE APS-1T1G2S-MW1-00-T APS-1T1G2S-MW1-00-TE APS-1T1G2S-OMW1-0S-T APS-1T1G2S-OMW1-0S-TE APS-1T1G2S-MW1-0S-T APS-1T1G2S-MW1-0S-TE																																																																																				
APS-2T2S2Z-OMW1-20-T APS-2T2S2Z-OMW1-20-TE APS-2T2S2Z-MW1-20-T APS-2T2S2Z-MW1-20-TE APS-2T2S2Z-OMW1-2S-T APS-2T2S2Z-OMW1-2S-TE APS-2T2S2Z-MW1-2S-T APS-2T2S2Z-MW1-2S-TE	APS-2T2S2Z-OMW1-30-T APS-2T2S2Z-OMW1-30-TE APS-2T2S2Z-MW1-30-T APS-2T2S2Z-MW1-30-TE APS-2T2S2Z-OMW1-3S-T APS-2T2S2Z-OMW1-3S-TE APS-2T2S2Z-MW1-3S-T APS-2T2S2Z-MW1-3S-TE	APS-1T1G2S-OMW1-00-T APS-1T1G2S-OMW1-00-TE APS-1T1G2S-MW1-00-T APS-1T1G2S-MW1-00-TE APS-1T1G2S-OMW1-0S-T APS-1T1G2S-OMW1-0S-TE APS-1T1G2S-MW1-0S-T APS-1T1G2S-MW1-0S-TE																																																																																				

<table><tr><th>Source status</th><th>TR1</th><th>G</th><th>Q1</th><th>Q2</th><th>Q12</th><th>Q21</th><th>QZ1</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td></tr></table> $P_{TR1} > P_G$ Partial explicit reserve - generator G	Source status	TR1	G	Q1	Q2	Q12	Q21	QZ1	Primary	1	1/0	1	0	1	0	1	Reserve G	0	1	0	1	0	1	0	<table><tr><th>Source status</th><th>TR1</th><th>G</th><th>Q1</th><th>Q2</th><th>Q12</th><th>Q21</th><th>QZ1</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td></tr></table> $P_{TR1} = P_G$ Full explicit reserve - generator G	Source status	TR1	G	Q1	Q2	Q12	Q21	QZ1	Primary	1	1/0	1	0	1	0	1	Reserve G	0	1	0	1	0	1	1	<table><tr><th>Source status</th><th>TR1</th><th>G</th><th>Q1</th><th>Q2</th><th>Q12</th><th>Q21</th><th>QZ1</th><th>QZ2</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td></tr></table> $P_{TR1} > P_G$ Partial explicit reserve - generator G	Source status	TR1	G	Q1	Q2	Q12	Q21	QZ1	QZ2	Primary	1	1/0	1	0	1	0	1	1	Reserve G	0	1	0	1	0	1	0	0
Source status	TR1	G	Q1	Q2	Q12	Q21	QZ1																																																																						
Primary	1	1/0	1	0	1	0	1																																																																						
Reserve G	0	1	0	1	0	1	0																																																																						
Source status	TR1	G	Q1	Q2	Q12	Q21	QZ1																																																																						
Primary	1	1/0	1	0	1	0	1																																																																						
Reserve G	0	1	0	1	0	1	1																																																																						
Source status	TR1	G	Q1	Q2	Q12	Q21	QZ1	QZ2																																																																					
Primary	1	1/0	1	0	1	0	1	1																																																																					
Reserve G	0	1	0	1	0	1	0	0																																																																					
Catalog number of automation system	Catalog number of automation system	Catalog number of automation system																																																																											
APS-1T1G2S1Z-OMW1-00-T APS-1T1G2S1Z-OMW1-00-TE APS-1T1G2S1Z-MW1-00-T APS-1T1G2S1Z-MW1-00-TE APS-1T1G2S1Z-OMW1-0S-T APS-1T1G2S1Z-OMW1-0S-TE APS-1T1G2S1Z-MW1-0S-T APS-1T1G2S1Z-MW1-0S-TE	APS-1T1G2S1Z-OMW1-10-T APS-1T1G2S1Z-OMW1-10-TE APS-1T1G2S1Z-MW1-10-T APS-1T1G2S1Z-MW1-10-TE APS-1T1G2S1Z-OMW1-1S-T APS-1T1G2S1Z-OMW1-1S-TE APS-1T1G2S1Z-MW1-1S-T APS-1T1G2S1Z-MW1-1S-TE	APS-1T1G2S2Z-OMW1-00-T APS-1T1G2S2Z-OMW1-00-TE APS-1T1G2S2Z-MW1-00-T APS-1T1G2S2Z-MW1-00-TE APS-1T1G2S2Z-OMW1-0S-T APS-1T1G2S2Z-OMW1-0S-TE APS-1T1G2S2Z-MW1-0S-T APS-1T1G2S2Z-MW1-0S-TE																																																																											
APS-1T1G2S1Z-OMW1-00-T APS-1T1G2S1Z-OMW1-00-TE APS-1T1G2S1Z-MW1-00-T APS-1T1G2S1Z-MW1-00-TE APS-1T1G2S1Z-OMW1-0S-T APS-1T1G2S1Z-OMW1-0S-TE APS-1T1G2S1Z-MW1-0S-T APS-1T1G2S1Z-MW1-0S-TE	APS-1T1G2S1Z-OMW1-10-T APS-1T1G2S1Z-OMW1-10-TE APS-1T1G2S1Z-MW1-10-T APS-1T1G2S1Z-MW1-10-TE APS-1T1G2S1Z-OMW1-1S-T APS-1T1G2S1Z-OMW1-1S-TE APS-1T1G2S1Z-MW1-1S-T APS-1T1G2S1Z-MW1-1S-TE	APS-1T1G2S2Z-OMW1-00-T APS-1T1G2S2Z-OMW1-00-TE APS-1T1G2S2Z-MW1-00-T APS-1T1G2S2Z-MW1-00-TE APS-1T1G2S2Z-OMW1-0S-T APS-1T1G2S2Z-OMW1-0S-TE APS-1T1G2S2Z-MW1-0S-T APS-1T1G2S2Z-MW1-0S-TE																																																																											

Automatic Power Switch

SELECTION OF PERFORMANCE APPARATUS

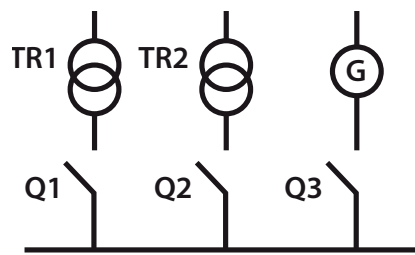
Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.



Source status			Device status						
	TR1	G	Q1	Q2	Q12	Q21	QZ1	QZ2	
Primary	1	1/0	1	0	1	0	1	1	
Reserve G	0	1	0	1	0	1	1	0	

$$P_{TR1} > P_G$$

Partial explicit reserve - generator G



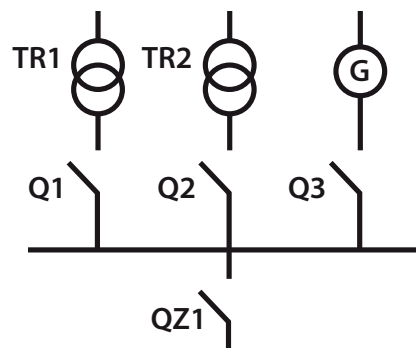
Source status	Device status					
	TR1	TR2	G	Q1	Q2	Q3
Primary	1	1/0	1/0	1	0	0
Reserve TR1	0	1	1/0	0	1	0
Reserve TR2	0	0	1	0	0	1

$$P_{TR1} = P_{TR2} = P_G$$

Full explicit reserve - transformer TR2

Full explicit reserve - generator G

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-1T1G2S2Z-OMW1-10-T APS-1T1G2S2Z-OMW1-10-TE APS-1T1G2S2Z-MW1-10-T APS-1T1G2S2Z-MW1-10-TE APS-1T1G2S2Z-OMW1-1S-T APS-1T1G2S2Z-OMW1-1S-TE APS-1T1G2S2Z-MW1-1S-T APS-1T1G2S2Z-MW1-1S-TE	APS-1T1G2S2Z-OMW1-20-T APS-1T1G2S2Z-OMW1-20-TE APS-1T1G2S2Z-MW1-20-T APS-1T1G2S2Z-MW1-20-TE APS-1T1G2S2Z-OMW1-2S-T APS-1T1G2S2Z-OMW1-2S-TE APS-1T1G2S2Z-MW1-2S-T APS-1T1G2S2Z-MW1-2S-TE	APS-2T1G-OMW2-00-T APS-2T1G-OMW2-00-TE APS-2T1G-MW2-00-T APS-2T1G-MW2-00-TE APS-2T1G-OMW2-0S-T APS-2T1G-OMW2-0S-TE APS-2T1G-MW2-0S-T APS-2T1G-MW2-0S-TE
APS-1T1G2S2Z-OMW1-10-T APS-1T1G2S2Z-OMW1-10-TE APS-1T1G2S2Z-MW1-10-T APS-1T1G2S2Z-MW1-10-TE APS-1T1G2S2Z-OMW1-1S-T APS-1T1G2S2Z-OMW1-1S-TE APS-1T1G2S2Z-MW1-1S-T APS-1T1G2S2Z-MW1-1S-TE	APS-1T1G2S2Z-OMW1-20-T APS-1T1G2S2Z-OMW1-20-TE APS-1T1G2S2Z-MW1-20-T APS-1T1G2S2Z-MW1-20-TE APS-1T1G2S2Z-OMW1-2S-T APS-1T1G2S2Z-OMW1-2S-TE APS-1T1G2S2Z-MW1-2S-T APS-1T1G2S2Z-MW1-2S-TE	APS-2T1G-OMW2-00-T APS-2T1G-OMW2-00-TE APS-2T1G-MW2-00-T APS-2T1G-MW2-00-TE APS-2T1G-OMW2-0S-T APS-2T1G-OMW2-0S-TE APS-2T1G-MW2-0S-T APS-2T1G-MW2-0S-TE



Source status				Device status			
	TR1	TR2	G	Q1	Q2	Q3	QZ1
Primary	1	1/0	1/0	1	0	0	1
Reserve TR2	0	1	1/0	0	1	0	1
Reserve G	0	0	1	0	0	1	1

$$P_{TR1} = P_{TR2} = P_G$$

Full explicit reserve - transformer TR2

Full explicit reserve - generator G

Source status				Device status			
	TR1	TR2	G	Q1	Q2	Q3	QZ1
Primary	1	1/0	1/0	1	0	0	1
Reserve TR2	0	1	1/0	0	1	0	1
Reserve G	0	0	1	0	0	1	0

$$P_{TR1} = P_{TR2}$$

Full explicit reserve - transformer TR2

Partial explicit reserve - generator G

Source status				Device status			
	TR1	TR2	G	Q1	Q2	Q3	QZ1
Primary	1	1/0	1/0	1	0	0	1
Reserve TR2	0	1	1/0	0	1	0	0
Reserve G	0	0	1	0	0	1	0

$$P_{TR1} > P_{TR2}$$

Partial explicit reserve - transformer TR2

Partial explicit reserve - generator G

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-2T1G1Z-OMW2-00-T APS-2T1G1Z-OMW2-00-TE APS-2T1G1Z-MW2-00-T APS-2T1G1Z-MW2-00-TE APS-2T1G1Z-OMW2-0S-T APS-2T1G1Z-OMW2-0S-TE APS-2T1G1Z-MW2-0S-T APS-2T1G1Z-MW2-0S-TE	APS-2T1G1Z-OMW2-10-T APS-2T1G1Z-OMW2-10-TE APS-2T1G1Z-MW2-10-T APS-2T1G1Z-MW2-10-TE APS-2T1G1Z-OMW2-1S-T APS-2T1G1Z-OMW2-1S-TE APS-2T1G1Z-MW2-1S-T APS-2T1G1Z-MW2-1S-TE	APS-2T1G1Z-OMW2-20-T APS-2T1G1Z-OMW2-20-TE APS-2T1G1Z-MW2-20-T APS-2T1G1Z-MW2-20-TE APS-2T1G1Z-OMW2-2S-T APS-2T1G1Z-OMW2-2S-TE APS-2T1G1Z-MW2-2S-T APS-2T1G1Z-MW2-2S-TE
APS-2T1G1Z-OMW2-00-T APS-2T1G1Z-OMW2-00-TE APS-2T1G1Z-MW2-00-T APS-2T1G1Z-MW2-00-TE APS-2T1G1Z-OMW2-0S-T APS-2T1G1Z-OMW2-0S-TE APS-2T1G1Z-MW2-0S-T APS-2T1G1Z-MW2-0S-TE	APS-2T1G1Z-OMW2-10-T APS-2T1G1Z-OMW2-10-TE APS-2T1G1Z-MW2-10-T APS-2T1G1Z-MW2-10-TE APS-2T1G1Z-OMW2-1S-T APS-2T1G1Z-OMW2-1S-TE APS-2T1G1Z-MW2-1S-T APS-2T1G1Z-MW2-1S-TE	APS-2T1G1Z-OMW2-20-T APS-2T1G1Z-OMW2-20-TE APS-2T1G1Z-MW2-20-T APS-2T1G1Z-MW2-20-TE APS-2T1G1Z-OMW2-2S-T APS-2T1G1Z-OMW2-2S-TE APS-2T1G1Z-MW2-2S-T APS-2T1G1Z-MW2-2S-TE

APS
Automatic Power Switch

16 • www.sZR-aps.pl •

APS
Automatic Power Switch

• www.sZR-aps.pl • 17

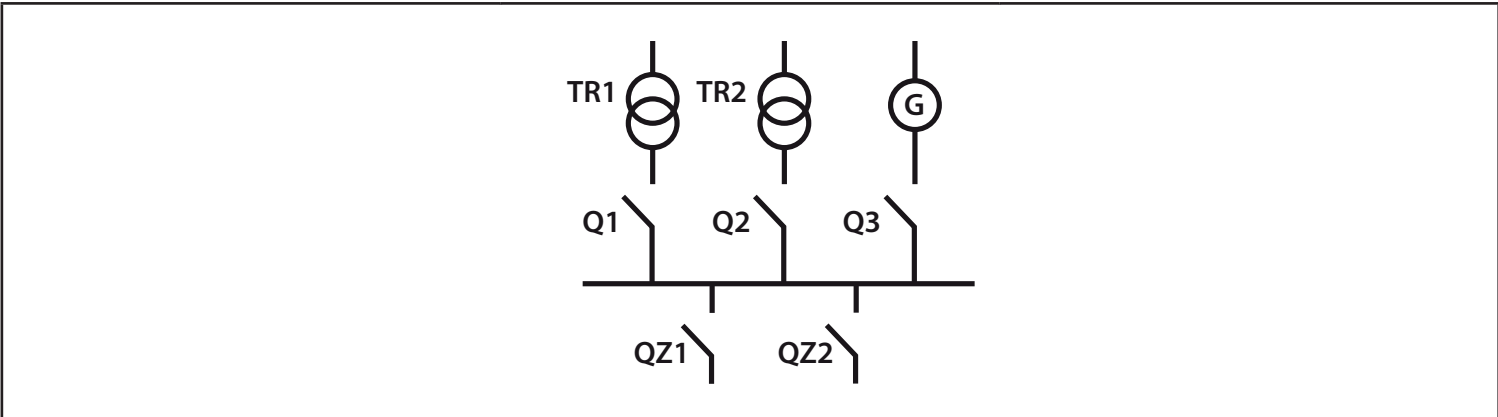
The diagram consists of a square frame with a diagonal line from the top-left to the bottom-right. The text 'CHOICE OF SCHEME AND OPERATING LOGIC' is in the top-right triangle. The text 'Automatic Power Switch' is written along the diagonal line. The text 'SELECTION OF PERFORMANCE APPARATUS' is in the bottom-left triangle.

CHOICE OF SCHEME AND
OPERATING LOGIC

Automatic Power Switch

SELECTION
OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 2 pcs. 1 pc.



Source status				Device status					
	TR1	TR2	G	Q1	Q2	Q3	QZ1	QZ2	
Primary	1	1/0	1/0	1	0	0	1	1	
Reserve TR2	0	1	1/0	0	1	0	1	1	
Reserve G	0	0	1	0	0	1	1	1	

$P_{TR1} = P_{TR2} = P_G$
Full explicit reserve - transformer TR2
Full explicit reserve - generator G

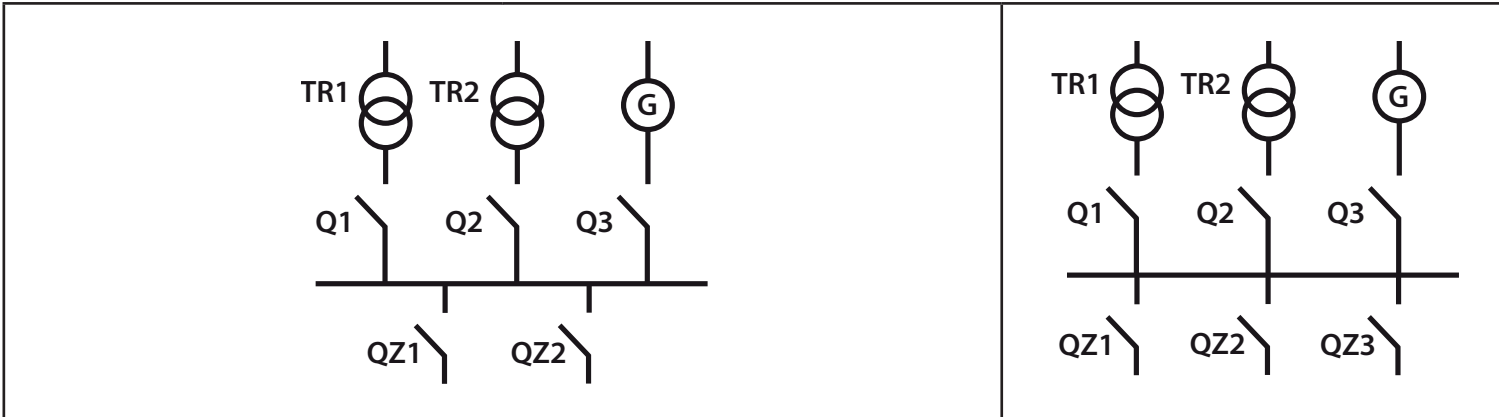
$P_{TR1} = P_{TR2}$
Full explicit reserve - transformer TR2
 $P_{TR1} > P_G$
Partial explicit reserve - generator G

$P_{TR1} = P_{TR2}$
Full explicit reserve - transformer TR2
 $P_{TR1} > P_G$
Partial explicit reserve - generator G

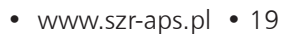
Catalog number of automation system								
APS-2T1G2Z-OMW2-00-T APS-2T1G2Z-OMW2-00-TE APS-2T1G2Z-MW2-00-T APS-2T1G2Z-MW2-00-TE APS-2T1G2Z-OMW2-0S-T APS-2T1G2Z-OMW2-0S-TE APS-2T1G2Z-MW2-0S-T APS-2T1G2Z-MW2-0S-TE								
APS-2T1G2Z-OMW2-00-T APS-2T1G2Z-OMW2-00-TE APS-2T1G2Z-MW2-00-T APS-2T1G2Z-MW2-00-TE APS-2T1G2Z-OMW2-0S-T APS-2T1G2Z-OMW2-0S-TE APS-2T1G2Z-MW2-0S-T APS-2T1G2Z-MW2-0S-TE								

Catalog number of automation system								
APS-2T1G2Z-OMW2-10-T APS-2T1G2Z-OMW2-10-TE APS-2T1G2Z-MW2-10-T APS-2T1G2Z-MW2-10-TE APS-2T1G2Z-OMW2-1S-T APS-2T1G2Z-OMW2-1S-TE APS-2T1G2Z-MW2-1S-T APS-2T1G2Z-MW2-1S-TE								
APS-2T1G2Z-OMW2-10-T APS-2T1G2Z-OMW2-10-TE APS-2T1G2Z-MW2-10-T APS-2T1G2Z-MW2-10-TE APS-2T1G2Z-OMW2-1S-T APS-2T1G2Z-OMW2-1S-TE APS-2T1G2Z-MW2-1S-T APS-2T1G2Z-MW2-1S-TE								

Catalog number of automation system								
APS-2T1G2Z-OMW2-20-T APS-2T1G2Z-OMW2-20-TE APS-2T1G2Z-MW2-20-T APS-2T1G2Z-MW2-20-TE APS-2T1G2Z-OMW2-2S-T APS-2T1G2Z-OMW2-2S-TE APS-2T1G2Z-MW2-2S-T APS-2T1G2Z-MW2-2S-TE								
APS-2T1G2Z-OMW2-20-T APS-2T1G2Z-OMW2-20-TE APS-2T1G2Z-MW2-20-T APS-2T1G2Z-MW2-20-TE APS-2T1G2Z-OMW2-2S-T APS-2T1G2Z-OMW2-2S-TE APS-2T1G2Z-MW2-2S-T APS-2T1G2Z-MW2-2S-TE								



Source status				Device status					Source status				Device status					Source status				Device status									
	TR1	TR2	G	Q1	Q2	Q3	QZ1	QZ2		TR1	TR2	G	Q1	Q2	Q3	QZ1	QZ2		TR1	TR2	G	Q1	Q2	Q3	QZ1	QZ2	QZ3				
Primary	1	1/0	1/0	1	0	0	1	1	Primary	1	1/0	1/0	1	0	0	1	1	Primary	1	1/0	1/0	1	0	0	1	1	1				
Reserve TR2	0	1	1/0	0	1	0	0	1	Reserve TR2	0	1	1/0	0	1	0	0	0	Reserve TR2	0	1	1/0	0	1	0	1/0K	1/0K	1/0K				
Reserve G	0	0	1	0	0	1	0	0	Reserve G	0	0	1	0	0	1	0	0	Reserve G	0	0	1	0	0	1	1/0K	1/0K	1/0K				
$P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$ Partial explicit reserve - transformer TR2 Partial explicit reserve - generator G									$P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$ Partial explicit reserve - transformer TR2 Partial explicit reserve - generator G									$P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$ Partial explicit reserve - transformer TR2 Partial explicit reserve - generator G													
Catalog number of automation system									Catalog number of automation system									Catalog number of automation system													
APS-2T1G2Z-OMW2-30-T APS-2T1G2Z-OMW2-30-TE APS-2T1G2Z-MW2-30-T APS-2T1G2Z-MW2-30-TE APS-2T1G2Z-OMW2-3S-T APS-2T1G2Z-OMW2-3S-TE APS-2T1G2Z-MW2-3S-T APS-2T1G2Z-MW2-3S-TE									APS-2T1G2Z-OMW2-40-T APS-2T1G2Z-OMW2-40-TE APS-2T1G2Z-MW2-40-T APS-2T1G2Z-MW2-40-TE APS-2T1G2Z-OMW2-4S-T APS-2T1G2Z-OMW2-4S-TE APS-2T1G2Z-MW2-4S-T APS-2T1G2Z-MW2-4S-TE									APS-2T1G3Z-OMW2-K0-T APS-2T1G3Z-OMW2-K0-TE APS-2T1G3Z-MW2-K0-T APS-2T1G3Z-MW2-K0-TE APS-2T1G3Z-OMW2-KS-T APS-2T1G3Z-OMW2-KS-TE APS-2T1G3Z-MW2-KS-T APS-2T1G3Z-MW2-KS-TE													
APS-2T1G2Z-OMW2-30-T APS-2T1G2Z-OMW2-30-TE APS-2T1G2Z-MW2-30-T APS-2T1G2Z-MW2-30-TE APS-2T1G2Z-OMW2-3S-T APS-2T1G2Z-OMW2-3S-TE APS-2T1G2Z-MW2-3S-T APS-2T1G2Z-MW2-3S-TE									APS-2T1G2Z-OMW2-40-T APS-2T1G2Z-OMW2-40-TE APS-2T1G2Z-MW2-40-T APS-2T1G2Z-MW2-40-TE APS-2T1G2Z-OMW2-4S-T APS-2T1G2Z-OMW2-4S-TE APS-2T1G2Z-MW2-4S-T APS-2T1G2Z-MW2-4S-TE									APS-2T1G3Z-OMW2-K0-T APS-2T1G3Z-OMW2-K0-TE APS-2T1G3Z-MW2-K0-T APS-2T1G3Z-MW2-K0-TE APS-2T1G3Z-OMW2-KS-T APS-2T1G3Z-OMW2-KS-TE APS-2T1G3Z-MW2-KS-T APS-2T1G3Z-MW2-KS-TE													



CHOICE OF SCHEME AND OPERATING LOGIC

Automatic Power Switch

SELECTION OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.

<table><tr><th colspan="4">Source status</th><th colspan="3">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>TR3</th><th>Q1</th><th>Q2</th><th>Q3</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td></tr><tr><td>Reserve TR3</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td></tr></table> $P_{TR1} = P_{TR2} = P_{TR3}$ Full explicit reserve - transformer TR2	Source status				Device status				TR1	TR2	TR3	Q1	Q2	Q3	Primary	1	1/0	1/0	1	0	0	Reserve TR2	0	1	1/0	0	1	0	Reserve TR3	0	0	1	0	0	1	<table><tr><th colspan="4">Source status</th><th colspan="6">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>TR3</th><th>Q1</th><th>Q2</th><th>Q3</th><th>QZ1</th><th>QZ2</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1/OK</td><td>1/OK</td></tr><tr><td>Reserve TR3</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1/OK</td><td>1/OK</td></tr></table> $P_{TR1} = P_{TR2} > P_{TR3}$ Partial explicit reserve - transformer TR2 Configuration from the terminal - 1/OK	Source status				Device status							TR1	TR2	TR3	Q1	Q2	Q3	QZ1	QZ2	Primary	1	1/0	1/0	1	0	0	1	1	Reserve TR2	0	1	1/0	0	1	0	1/OK	1/OK	Reserve TR3	0	0	1	0	0	1	1/OK	1/OK	<table><tr><th colspan="4">Source status</th><th colspan="9">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>TR3</th><th>Q1</th><th>Q2</th><th>Q3</th><th>QZ1</th><th>QZ2</th><th>QZ3</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1/OK</td><td>1/OK</td><td>1/OK</td></tr><tr><td>Reserve TR3</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1/OK</td><td>1/OK</td><td>1/OK</td></tr></table> $P_{TR1} = P_{TR2} > P_{TR3}$ Partial explicit reserve - transformer TR2 Configuration from the terminal - 1/OK	Source status				Device status										TR1	TR2	TR3	Q1	Q2	Q3	QZ1	QZ2	QZ3	Primary	1	1/0	1/0	1	0	0	1	1	1	Reserve TR2	0	1	1/0	0	1	0	1/OK	1/OK	1/OK	Reserve TR3	0	0	1	0	0	1	1/OK	1/OK	1/OK
Source status				Device status																																																																																																																																				
	TR1	TR2	TR3	Q1	Q2	Q3																																																																																																																																		
Primary	1	1/0	1/0	1	0	0																																																																																																																																		
Reserve TR2	0	1	1/0	0	1	0																																																																																																																																		
Reserve TR3	0	0	1	0	0	1																																																																																																																																		
Source status				Device status																																																																																																																																				
	TR1	TR2	TR3	Q1	Q2	Q3	QZ1	QZ2																																																																																																																																
Primary	1	1/0	1/0	1	0	0	1	1																																																																																																																																
Reserve TR2	0	1	1/0	0	1	0	1/OK	1/OK																																																																																																																																
Reserve TR3	0	0	1	0	0	1	1/OK	1/OK																																																																																																																																
Source status				Device status																																																																																																																																				
	TR1	TR2	TR3	Q1	Q2	Q3	QZ1	QZ2	QZ3																																																																																																																															
Primary	1	1/0	1/0	1	0	0	1	1	1																																																																																																																															
Reserve TR2	0	1	1/0	0	1	0	1/OK	1/OK	1/OK																																																																																																																															
Reserve TR3	0	0	1	0	0	1	1/OK	1/OK	1/OK																																																																																																																															
Catalog number of automation system	Catalog number of automation system	Catalog number of automation system																																																																																																																																						
APS-3T-OMW2-00-T APS-3T-OMW2-00-TE APS-3T-MW2-00-T APS-3T-MW2-00-TE APS-3T-OMW2-0S-T APS-3T-OMW2-0S-TE APS-3T-MW2-0S-T APS-3T-MW2-0S-TE	APS-3T2Z-OMW2-K0-T APS-3T2Z-OMW2-K0-TE APS-3T2Z-MW2-K0-T APS-3T2Z-MW2-K0-TE APS-3T2Z-OMW2-KS-T APS-3T2Z-OMW2-KS-TE APS-3T2Z-MW2-KS-T APS-3T2Z-MW2-KS-TE	APS-3T3Z-OMW2-K0-T APS-3T3Z-OMW2-K0-TE APS-3T3Z-MW2-K0-T APS-3T3Z-MW2-K0-TE APS-3T3Z-OMW2-KS-T APS-3T3Z-OMW2-KS-TE APS-3T3Z-MW2-KS-T APS-3T3Z-MW2-KS-TE																																																																																																																																						
APS-3T-OMW2-00-T APS-3T-OMW2-00-TE APS-3T-MW2-00-T APS-3T-MW2-00-TE APS-3T-OMW2-0S-T APS-3T-OMW2-0S-TE APS-3T-MW2-0S-T APS-3T-MW2-0S-TE	APS-3T2Z-OMW2-K0-T APS-3T2Z-OMW2-K0-TE APS-3T2Z-MW2-K0-T APS-3T2Z-MW2-K0-TE APS-3T2Z-OMW2-KS-T APS-3T2Z-OMW2-KS-TE APS-3T2Z-MW2-KS-T APS-3T2Z-MW2-KS-TE	APS-3T3Z-OMW2-K0-T APS-3T3Z-OMW2-K0-TE APS-3T3Z-MW2-K0-T APS-3T3Z-MW2-K0-TE APS-3T3Z-OMW2-KS-T APS-3T3Z-OMW2-KS-TE APS-3T3Z-MW2-KS-T APS-3T3Z-MW2-KS-TE																																																																																																																																						

TR1 TR2 G Q1 Q2 Q3 Q12																																																																																																																										
<table><tr><th colspan="4">Source status</th><th colspan="4">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q12</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr></table> $P_{TR1} = P_{TR2} = P_G$ Full explicit reserve - transformer TR2 Full explicit reserve - generator G	Source status				Device status					TR1	TR2	G	Q1	Q2	Q3	Q12	Primary	1	1/0	1/0	1	0	0	1	Reserve TR2	0	1	1/0	0	1	0	1	Reserve G	0	0	1	0	0	1	1	<table><tr><th colspan="4">Source status</th><th colspan="4">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q12</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>0</td></tr></table> $P_{TR1} = P_{TR2}$ $P_{TR1} > P_G$ Full explicit reserve - transformer TR2 Partial explicit reserve - generator G	Source status				Device status					TR1	TR2	G	Q1	Q2	Q3	Q12	Primary	1	1/0	1/0	1	0	0	1	Reserve TR2	0	1	1/0	0	1	0	1	Reserve G	0	0	1	0	0	1	0	<table><tr><th colspan="4">Source status</th><th colspan="4">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q12</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>0</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>0</td></tr></table> $P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$ Partial explicit reserve - transformer TR2 Partial explicit reserve - generator G	Source status				Device status					TR1	TR2	G	Q1	Q2	Q3	Q12	Primary	1	1/0	1/0	1	0	0	1	Reserve TR2	0	1	1/0	0	1	0	0	Reserve G	0	0	1	0	0	1	0
Source status				Device status																																																																																																																						
	TR1	TR2	G	Q1	Q2	Q3	Q12																																																																																																																			
Primary	1	1/0	1/0	1	0	0	1																																																																																																																			
Reserve TR2	0	1	1/0	0	1	0	1																																																																																																																			
Reserve G	0	0	1	0	0	1	1																																																																																																																			
Source status				Device status																																																																																																																						
	TR1	TR2	G	Q1	Q2	Q3	Q12																																																																																																																			
Primary	1	1/0	1/0	1	0	0	1																																																																																																																			
Reserve TR2	0	1	1/0	0	1	0	1																																																																																																																			
Reserve G	0	0	1	0	0	1	0																																																																																																																			
Source status				Device status																																																																																																																						
	TR1	TR2	G	Q1	Q2	Q3	Q12																																																																																																																			
Primary	1	1/0	1/0	1	0	0	1																																																																																																																			
Reserve TR2	0	1	1/0	0	1	0	0																																																																																																																			
Reserve G	0	0	1	0	0	1	0																																																																																																																			
Catalog number of automation system	Catalog number of automation system	Catalog number of automation system																																																																																																																								
APS-2T1G1S-OMW2-00-T APS-2T1G1S-OMW2-00-TE APS-2T1G1S-MW2-00-T APS-2T1G1S-MW2-00-TE APS-2T1G1S-MW2-0S-T APS-2T1G1S-OMW2-0S-TE APS-2T1G1S-MW2-0S-T APS-2T1G1S-MW2-0S-TE	APS-2T1G1S-OMW2-10-T APS-2T1G1S-OMW2-10-TE APS-2T1G1S-MW2-10-T APS-2T1G1S-MW2-10-TE APS-2T1G1S-MW2-1S-T APS-2T1G1S-OMW2-1S-TE APS-2T1G1S-MW2-1S-T APS-2T1G1S-MW2-1S-TE	APS-2T1G1S-OMW2-20-T APS-2T1G1S-OMW2-20-TE APS-2T1G1S-MW2-20-T APS-2T1G1S-MW2-20-TE APS-2T1G1S-MW2-2S-T APS-2T1G1S-OMW2-2S-TE APS-2T1G1S-MW2-2S-T APS-2T1G1S-MW2-2S-TE																																																																																																																								
APS-2T1G1S-OMW2-00-T APS-2T1G1S-OMW2-00-TE APS-2T1G1S-MW2-00-T APS-2T1G1S-MW2-00-TE APS-2T1G1S-MW2-0S-T APS-2T1G1S-OMW2-0S-TE APS-2T1G1S-MW2-0S-T APS-2T1G1S-MW2-0S-TE	APS-2T1G1S-OMW2-10-T APS-2T1G1S-OMW2-10-TE APS-2T1G1S-MW2-10-T APS-2T1G1S-MW2-10-TE APS-2T1G1S-MW2-1S-T APS-2T1G1S-OMW2-1S-TE APS-2T1G1S-MW2-1S-T APS-2T1G1S-MW2-1S-TE	APS-2T1G1S-OMW2-20-T APS-2T1G1S-OMW2-20-TE APS-2T1G1S-MW2-20-T APS-2T1G1S-MW2-20-TE APS-2T1G1S-MW2-2S-T APS-2T1G1S-OMW2-2S-TE APS-2T1G1S-MW2-2S-T APS-2T1G1S-MW2-2S-TE																																																																																																																								

CHOICE OF SCHEME AND OPERATING LOGIC

Automatic Power Switch

SELECTION OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs.
LG... 400-4000 A	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs.
LG... 400-4000 A	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs.
	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs.
	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Trip signaling contact NO Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	1 pc. 2 pcs. 1 pc. 1 pc.

Source status	Device status	Source status	Device status	Source status	Device status
	TR1 TR2 G Q1 Q2 Q3 Q12		TR1 TR2 G Q1 Q2 Q3 Q12		TR1 TR2 G Q1 Q2 Q3 Q12
Primary	1 1 1/0 1 1 0 0	Primary	1 1 1/0 1 1 0 0	Primary	1 1 1/0 1 1 0 0
Reserve TR1	1 0 1/0 1 0 0 1	Reserve TR1	1 0 1/0 1 0 0 1	Reserve TR1	1 0 1/0 1 0 0 1
Reserve TR2	0 1 1/0 0 1 0 1	Reserve TR2	0 1 1/0 0 1 0 1	Reserve TR2	0 1 1/0 0 1 0 0
Reserve G	0 0 1 0 0 1 1	Reserve G	0 0 1 0 0 1 0	Reserve G	0 0 1 0 0 1 0

$P_{TR1} = P_{TR2} = P_G$
Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2
Full explicit reserve - generator G

$P_{TR1} = P_{TR2} > P_G$
Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2
Partial explicit reserve - generator G

$P_{TR1} > P_{TR2}$
 $P_{TR1} > P_G$
Full hidden reserve - transformer TR1
Partial hidden reserve - transformer TR2
Partial explicit reserve - generator G

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-2T1G1S-OMW2-30-T APS-2T1G1S-OMW2-30-TE APS-2T1G1S-MW2-30-T APS-2T1G1S-MW2-30-TE APS-2T1G1S-MW2-30-T APS-2T1G1S-MW2-30-TE APS-2T1G1S-OMW2-3S-T APS-2T1G1S-OMW2-3S-TE APS-2T1G1S-MW2-3S-T APS-2T1G1S-MW2-3S-TE	APS-2T1G1S-OMW2-40-T APS-2T1G1S-OMW2-40-TE APS-2T1G1S-MW2-40-T APS-2T1G1S-MW2-40-TE APS-2T1G1S-MW2-40-T APS-2T1G1S-MW2-40-TE APS-2T1G1S-OMW2-4S-T APS-2T1G1S-OMW2-4S-TE APS-2T1G1S-MW2-4S-T APS-2T1G1S-MW2-4S-TE	APS-2T1G1S-OMW2-50-T APS-2T1G1S-OMW2-50-TE APS-2T1G1S-MW2-50-T APS-2T1G1S-MW2-50-TE APS-2T1G1S-MW2-50-T APS-2T1G1S-MW2-50-TE APS-2T1G1S-OMW2-5S-T APS-2T1G1S-OMW2-5S-TE APS-2T1G1S-MW2-5S-T APS-2T1G1S-MW2-5S-TE
APS-2T1G1S-OMW2-30-T APS-2T1G1S-OMW2-30-TE APS-2T1G1S-MW2-30-T APS-2T1G1S-MW2-30-TE APS-2T1G1S-MW2-30-T APS-2T1G1S-MW2-30-TE APS-2T1G1S-OMW2-3S-T APS-2T1G1S-OMW2-3S-TE APS-2T1G1S-MW2-3S-T APS-2T1G1S-MW2-3S-TE	APS-2T1G1S-OMW2-40-T APS-2T1G1S-OMW2-40-TE APS-2T1G1S-MW2-40-T APS-2T1G1S-MW2-40-TE APS-2T1G1S-MW2-40-T APS-2T1G1S-MW2-40-TE APS-2T1G1S-OMW2-4S-T APS-2T1G1S-OMW2-4S-TE APS-2T1G1S-MW2-4S-T APS-2T1G1S-MW2-4S-TE	APS-2T1G1S-OMW2-50-T APS-2T1G1S-OMW2-50-TE APS-2T1G1S-MW2-50-T APS-2T1G1S-MW2-50-TE APS-2T1G1S-MW2-50-T APS-2T1G1S-MW2-50-TE APS-2T1G1S-OMW2-5S-T APS-2T1G1S-OMW2-5S-TE APS-2T1G1S-MW2-5S-T APS-2T1G1S-MW2-5S-TE

Source status	Device status	Source status	Device status	Source status	Device status
	TR1 TR2 G Q1 Q2 Q3 Q12 Q21		TR1 TR2 G Q1 Q2 Q3 Q12 Q21		TR1 TR2 G Q1 Q2 Q3 Q12 Q21
Primary	1 1/0 1/0 1 0 0 1 1	Primary	1 1/0 1/0 1 0 0 1 1	Primary	1 1/0 1/0 1 0 0 1 1
Reserve TR1	1 0 1/0 1 0 0 1	Reserve TR1	1 0 1/0 1 0 0 1	Reserve TR1	1 0 1/0 1 0 0 1
Reserve TR2	0 1 1/0 0 1 0 1 1	Reserve TR2	0 1 1/0 0 1 0 1 1	Reserve TR2	0 1 1/0 0 1 0 1 0
Reserve G	0 0 1 0 0 1 1 1	Reserve G	0 0 1 0 0 1 1 0	Reserve G	0 0 1 0 0 1 1 0

$P_{TR1} = P_{TR2} = P_G$
Full explicit reserve - transformer TR2
Full explicit reserve - generator G

$P_{TR1} = P_{TR2}$
 $P_{TR1} > P_G$
Full explicit reserve - transformer TR2
Partial explicit reserve - generator G

$P_{TR1} > P_{TR2}$
 $P_{TR1} > P_G$
Partial explicit reserve - transformer TR2
Partial explicit reserve - generator G

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-2T1G1S1Z-OMW2-00-T APS-2T1G1S1Z-OMW2-00-TE APS-2T1G1S1Z-MW2-00-T APS-2T1G1S1Z-MW2-00-TE APS-2T1G1S1Z-MW2-00-T APS-2T1G1S1Z-MW2-00-TE APS-2T1G1S1Z-OMW2-0S-T APS-2T1G1S1Z-OMW2-0S-TE APS-2T1G1S1Z-MW2-0S-T APS-2T1G1S1Z-MW2-0S-TE	APS-2T1G1S1Z-OMW2-10-T APS-2T1G1S1Z-OMW2-10-TE APS-2T1G1S1Z-MW2-10-T APS-2T1G1S1Z-MW2-10-TE APS-2T1G1S1Z-MW2-10-T APS-2T1G1S1Z-MW2-10-TE APS-2T1G1S1Z-OMW2-1S-T APS-2T1G1S1Z-OMW2-1S-TE APS-2T1G1S1Z-MW2-1S-T APS-2T1G1S1Z-MW2-1S-TE	APS-2T1G1S1Z-OMW2-20-T APS-2T1G1S1Z-OMW2-20-TE APS-2T1G1S1Z-MW2-20-T APS-2T1G1S1Z-MW2-20-TE APS-2T1G1S1Z-MW2-20-T APS-2T1G1S1Z-MW2-20-TE APS-2T1G1S1Z-OMW2-2S-T APS-2T1G1S1Z-OMW2-2S-TE APS-2T1G1S1Z-MW2-2S-T APS-2T1G1S1Z-MW2-2S-TE
APS-2T1G1S1Z-OMW2-00-T APS-2T1G1S1Z-OMW2-00-TE APS-2T1G1S1Z-MW2-00-T APS-2T1G1S1Z-MW2-00-TE APS-2T1G1S1Z-MW2-00-T APS-2T1G1S1Z-MW2-00-TE APS-2T1G1S1Z-OMW2-0S-T APS-2T1G1S1Z-OMW2-0S-TE APS-2T1G1S1Z-MW2-0S-T APS-2T1G1S1Z-MW2-0S-TE	APS-2T1G1S1Z-OMW2-10-T APS-2T1G1S1Z-OMW2-10-TE APS-2T1G1S1Z-MW2-10-T APS-2T1G1S1Z-MW2-10-TE APS-2T1G1S1Z-MW2-10-T APS-2T1G1S1Z-MW2-10-TE APS-2T1G1S1Z-OMW2-1S-T APS-2T1G1S1Z-OMW2-1S-TE APS-2T1G1S1Z-MW2-1S-T APS-2T1G1S1Z-MW2-1S-TE	APS-2T1G1S1Z-OMW2-20-T APS-2T1G1S1Z-OMW2-20-TE APS-2T1G1S1Z-MW2-20-T APS-2T1G1S1Z-MW2-20-TE APS-2T1G1S1Z-MW2-20-T APS-2T1G1S1Z-MW2-20-TE APS-2T1G1S1Z-OMW2-2S-T APS-2T1G1S1Z-OMW2-2S-TE APS-2T1G1S1Z-MW2-2S-T APS-2T1G1S1Z-MW2-2S-TE

CHOICE OF SCHEME AND
OPERATING LOGIC

Automatic Power Switch

SELECTION
OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.

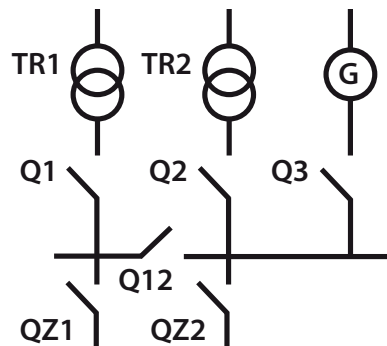
<table><tr><th colspan="4">Source status</th><th colspan="5">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q12</th><th>QZ1</th></tr><tr><td>Primary</td><td>1</td><td>1</td><td>1/0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>Reserve TR1</td><td>1</td><td>0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr></table> $P_{TR1} = P_{TR2} = P_G$ Full hidden reserve - transformer TR1 Full hidden reserve - transformer TR2 Full explicit reserve - generator G		Source status				Device status						TR1	TR2	G	Q1	Q2	Q3	Q12	QZ1	Primary	1	1	1/0	1	1	0	0	1	Reserve TR1	1	0	1/0	1	0	0	1	1	Reserve TR2	0	1	1/0	0	1	0	1	1	Reserve G	0	0	1	0	0	1	1	1	<table><tr><th colspan="4">Source status</th><th colspan="5">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q12</th><th>QZ1</th></tr><tr><td>Primary</td><td>1</td><td>1</td><td>1/0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>Reserve TR1</td><td>1</td><td>0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td></tr></table> $P_{TR1} = P_{TR2}$ $P_{TR1} > P_G$ Full hidden reserve - transformer TR1 Full hidden reserve - transformer TR2 Partial explicit reserve - generator G		Source status				Device status						TR1	TR2	G	Q1	Q2	Q3	Q12	QZ1	Primary	1	1	1/0	1	1	0	0	1	Reserve TR1	1	0	1/0	1	0	0	1	1	Reserve TR2	0	1	1/0	0	1	0	1	1	Reserve G	0	0	1	0	0	1	1	0	<table><tr><th colspan="4">Source status</th><th colspan="5">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q12</th><th>QZ1</th></tr><tr><td>Primary</td><td>1</td><td>1</td><td>1/0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>Reserve TR1</td><td>1</td><td>0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td></tr></table> $P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$ Full hidden reserve - transformer TR1 Partial hidden reserve - transformer TR2 Partial explicit reserve - generator G		Source status				Device status						TR1	TR2	G	Q1	Q2	Q3	Q12	QZ1	Primary	1	1	1/0	1	1	0	0	1	Reserve TR1	1	0	1/0	1	0	0	1	1	Reserve TR2	0	1	1/0	0	1	0	1	0	Reserve G	0	0	1	0	0	1	1	0
Source status				Device status																																																																																																																																																																			
	TR1	TR2	G	Q1	Q2	Q3	Q12	QZ1																																																																																																																																																															
Primary	1	1	1/0	1	1	0	0	1																																																																																																																																																															
Reserve TR1	1	0	1/0	1	0	0	1	1																																																																																																																																																															
Reserve TR2	0	1	1/0	0	1	0	1	1																																																																																																																																																															
Reserve G	0	0	1	0	0	1	1	1																																																																																																																																																															
Source status				Device status																																																																																																																																																																			
	TR1	TR2	G	Q1	Q2	Q3	Q12	QZ1																																																																																																																																																															
Primary	1	1	1/0	1	1	0	0	1																																																																																																																																																															
Reserve TR1	1	0	1/0	1	0	0	1	1																																																																																																																																																															
Reserve TR2	0	1	1/0	0	1	0	1	1																																																																																																																																																															
Reserve G	0	0	1	0	0	1	1	0																																																																																																																																																															
Source status				Device status																																																																																																																																																																			
	TR1	TR2	G	Q1	Q2	Q3	Q12	QZ1																																																																																																																																																															
Primary	1	1	1/0	1	1	0	0	1																																																																																																																																																															
Reserve TR1	1	0	1/0	1	0	0	1	1																																																																																																																																																															
Reserve TR2	0	1	1/0	0	1	0	1	0																																																																																																																																																															
Reserve G	0	0	1	0	0	1	1	0																																																																																																																																																															
Catalog number of automation system		Catalog number of automation system		Catalog number of automation system																																																																																																																																																																			
APS-2T1G1S1Z-OMW2-30-T APS-2T1G1S1Z-OMW2-30-TE APS-2T1G1S1Z-MW2-30-T APS-2T1G1S1Z-MW2-30-TE APS-2T1G1S1Z-OMW2-3S-T APS-2T1G1S1Z-OMW2-3S-TE APS-2T1G1S1Z-MW2-3S-T APS-2T1G1S1Z-MW2-3S-TE		APS-2T1G1S1Z-OMW2-40-T APS-2T1G1S1Z-OMW2-40-TE APS-2T1G1S1Z-MW2-40-T APS-2T1G1S1Z-MW2-40-TE APS-2T1G1S1Z-OMW2-4S-T APS-2T1G1S1Z-OMW2-4S-TE APS-2T1G1S1Z-MW2-4S-T APS-2T1G1S1Z-MW2-4S-TE		APS-2T1G1S1Z-OMW2-50-T APS-2T1G1S1Z-OMW2-50-TE APS-2T1G1S1Z-MW2-50-T APS-2T1G1S1Z-MW2-50-TE APS-2T1G1S1Z-OMW2-5S-T APS-2T1G1S1Z-OMW2-5S-TE APS-2T1G1S1Z-MW2-5S-T APS-2T1G1S1Z-MW2-5S-TE																																																																																																																																																																			
APS-2T1G1S1Z-OMW2-30-T APS-2T1G1S1Z-OMW2-30-TE APS-2T1G1S1Z-MW2-30-T APS-2T1G1S1Z-MW2-30-TE APS-2T1G1S1Z-OMW2-3S-T APS-2T1G1S1Z-OMW2-3S-TE APS-2T1G1S1Z-MW2-3S-T APS-2T1G1S1Z-MW2-3S-TE		APS-2T1G1S1Z-OMW2-40-T APS-2T1G1S1Z-OMW2-40-TE APS-2T1G1S1Z-MW2-40-T APS-2T1G1S1Z-MW2-40-TE APS-2T1G1S1Z-OMW2-4S-T APS-2T1G1S1Z-OMW2-4S-TE APS-2T1G1S1Z-MW2-4S-T APS-2T1G1S1Z-MW2-4S-TE		APS-2T1G1S1Z-OMW2-50-T APS-2T1G1S1Z-OMW2-50-TE APS-2T1G1S1Z-MW2-50-T APS-2T1G1S1Z-MW2-50-TE APS-2T1G1S1Z-OMW2-5S-T APS-2T1G1S1Z-OMW2-5S-TE APS-2T1G1S1Z-MW2-5S-T APS-2T1G1S1Z-MW2-5S-TE																																																																																																																																																																			

<table><tr><th>Source status</th><th colspan="8">Device status</th></tr><tr><td></td><td>TR1</td><td>TR2</td><td>G</td><td>Q1</td><td>Q2</td><td>Q3</td><td>Q12</td><td>QZ1</td></tr><tr><td>Primary</td><td>1</td><td>1</td><td>1/0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>Reserve TR1</td><td>1</td><td>0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td></tr></table> $P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$ Full hidden reserve - transformer TR1 Partial hidden reserve - transformer TR2 Partial explicit reserve - generator G	Source status	Device status									TR1	TR2	G	Q1	Q2	Q3	Q12	QZ1	Primary	1	1	1/0	1	1	0	0	1	Reserve TR1	1	0	1/0	1	0	0	1	1	Reserve TR2	0	1	1/0	0	1	0	1	0	Reserve G	0	0	1	0	0	1	0	0	<table><tr><th>Source status</th><th colspan="8">Device status</th></tr><tr><td></td><td>TR1</td><td>TR2</td><td>G</td><td>Q1</td><td>Q2</td><td>Q3</td><td>Q12</td><td>QZ1</td><td>QZ2</td></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr></table> $P_{TR1} = P_{TR2} = P_G$ Full explicit reserve - transformer TR2 Full explicit reserve - generator G	Source status	Device status									TR1	TR2	G	Q1	Q2	Q3	Q12	QZ1	QZ2	Primary	1	1/0	1/0	1	0	0	1	1	1	Reserve TR2	0	1	1/0	0	1	0	1	1	1	Reserve G	0	0	1	0	0	1	1	1	1	<table><tr><th>Source status</th><th colspan="9">Device status</th></tr><tr><td></td><td>TR1</td><td>TR2</td><td>TR3</td><td>Q1</td><td>Q2</td><td>Q3</td><td>Q12</td><td>QZ1</td><td>QZ2</td></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td></tr></table> $P_{TR1} = P_{TR2}$ $P_{TR1} > P_G$ Full explicit reserve - transformer TR2 Partial explicit reserve - generator G	Source status	Device status										TR1	TR2	TR3	Q1	Q2	Q3	Q12	QZ1	QZ2	Primary	1	1/0	1/0	1	0	0	1	1	1	Reserve TR2	0	1	1/0	0	1	0	1	1	1	Reserve G	0	0	1	0	0	1	1	0	0
Source status	Device status																																																																																																																																																										
	TR1	TR2	G	Q1	Q2	Q3	Q12	QZ1																																																																																																																																																			
Primary	1	1	1/0	1	1	0	0	1																																																																																																																																																			
Reserve TR1	1	0	1/0	1	0	0	1	1																																																																																																																																																			
Reserve TR2	0	1	1/0	0	1	0	1	0																																																																																																																																																			
Reserve G	0	0	1	0	0	1	0	0																																																																																																																																																			
Source status	Device status																																																																																																																																																										
	TR1	TR2	G	Q1	Q2	Q3	Q12	QZ1	QZ2																																																																																																																																																		
Primary	1	1/0	1/0	1	0	0	1	1	1																																																																																																																																																		
Reserve TR2	0	1	1/0	0	1	0	1	1	1																																																																																																																																																		
Reserve G	0	0	1	0	0	1	1	1	1																																																																																																																																																		
Source status	Device status																																																																																																																																																										
	TR1	TR2	TR3	Q1	Q2	Q3	Q12	QZ1	QZ2																																																																																																																																																		
Primary	1	1/0	1/0	1	0	0	1	1	1																																																																																																																																																		
Reserve TR2	0	1	1/0	0	1	0	1	1	1																																																																																																																																																		
Reserve G	0	0	1	0	0	1	1	0	0																																																																																																																																																		
Catalog number of automation system	Catalog number of automation system	Catalog number of automation system																																																																																																																																																									
APS-2T1G1S1Z-OMW2-60-T APS-2T1G1S1Z-OMW2-60-TE APS-2T1G1S1Z-MW2-60-T APS-2T1G1S1Z-MW2-60-TE APS-2T1G1S1Z-OMW2-6S-T APS-2T1G1S1Z-OMW2-6S-TE APS-2T1G1S1Z-MW2-6S-T APS-2T1G1S1Z-MW2-6S-TE	APS-2T1G1S2Z-OMW2-00-T APS-2T1G1S2Z-OMW2-00-TE APS-2T1G1S2Z-MW2-00-T APS-2T1G1S2Z-MW2-00-TE APS-2T1G1S2Z-OMW2-0S-T APS-2T1G1S2Z-OMW2-0S-TE APS-2T1G1S2Z-MW2-0S-T APS-2T1G1S2Z-MW2-0S-TE	APS-2T1G1S2Z-OMW2-10-T APS-2T1G1S2Z-OMW2-10-TE APS-2T1G1S2Z-MW2-10-T APS-2T1G1S2Z-MW2-10-TE APS-2T1G1S2Z-OMW2-1S-T APS-2T1G1S2Z-OMW2-1S-TE APS-2T1G1S2Z-MW2-1S-T APS-2T1G1S2Z-MW2-1S-TE																																																																																																																																																									
APS-2T1G1S1Z-OMW2-60-T APS-2T1G1S1Z-OMW2-60-TE APS-2T1G1S1Z-MW2-60-T APS-2T1G1S1Z-MW2-60-TE APS-2T1G1S1Z-OMW2-6S-T APS-2T1G1S1Z-OMW2-6S-TE APS-2T1G1S1Z-MW2-6S-T APS-2T1G1S1Z-MW2-6S-TE	APS-2T1G1S2Z-OMW2-00-T APS-2T1G1S2Z-OMW2-00-TE APS-2T1G1S2Z-MW2-00-T APS-2T1G1S2Z-MW2-00-TE APS-2T1G1S2Z-OMW2-0S-T APS-2T1G1S2Z-OMW2-0S-TE APS-2T1G1S2Z-MW2-0S-T APS-2T1G1S2Z-MW2-0S-TE	APS-2T1G1S2Z-OMW2-10-T APS-2T1G1S2Z-OMW2-10-TE APS-2T1G1S2Z-MW2-10-T APS-2T1G1S2Z-MW2-10-TE APS-2T1G1S2Z-OMW2-1S-T APS-2T1G1S2Z-OMW2-1S-TE APS-2T1G1S2Z-MW2-1S-T APS-2T1G1S2Z-MW2-1S-TE																																																																																																																																																									

Automatic Power Switch

SELECTION OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO	1 pc. 1 pc. 1 pc. 3 pcs.
LG... 400-4000 A	Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	3 pcs. 3 pcs. 1 pc. option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO	1 pc. 1 pc. 1 pc. 4 pcs.
LG... 400-4000 A	Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	4 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.



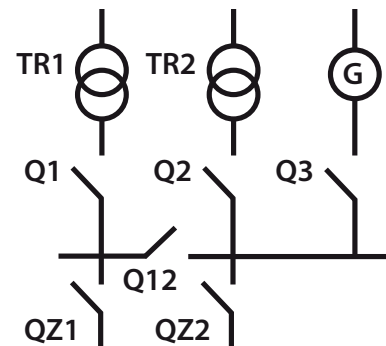
Source status												Device status													
				TR1	TR2	TR3	Q1	Q2	Q3	Q12	Q21	Q22					TR1	TR2	TR3	Q1	Q2	Q3	Q12	Q21	Q22
Primary				1	1	1/0	1	1	0	0	1	1	Primary				1	1	1/0	1	1	0	0	1	1
Reserve TR1				1	0	1/0	1	0	0	1	1	1	Reserve TR1				1	0	1/0	1	0	0	1	1	1
Reserve TR2				0	1	1/0	0	1	0	1	1	1	Reserve TR2				0	1	1/0	0	1	0	1	1	1
Reserve G				0	0	1	0	0	1	1	1	1	Reserve G				0	0	1	0	0	1	1	0	0

$P_{TR1} > P_{TR2}$						$P_{TR1} > P_G$					
Partial explicit reserve - transformer TR2											
Partial explicit reserve - generator G											

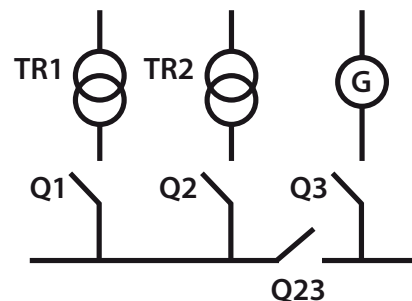
$P_{TR1} = P_{TR2} = P_G$											
Full hidden reserve - transformer TR1											
Full hidden reserve - transformer TR2											
Full explicit reserve - generator G											

$P_{TR1} = P_{TR2}$						$P_{TR1} > P_G$					
Full hidden reserve - transformer TR1											
Full hidden reserve - transformer TR2											
Partial explicit reserve - generator G											

Catalog number of automation system											
APS-2T1G1S2Z-OMW2-20-T APS-2T1G1S2Z-OMW2-20-TE APS-2T1G1S2Z-MW2-20-T APS-2T1G1S2Z-MW2-20-TE APS-2T1G1S2Z-OMW2-2S-T APS-2T1G1S2Z-OMW2-2S-TE APS-2T1G1S2Z-MW2-2S-T APS-2T1G1S2Z-MW2-2S-TE											
APS-2T1G1S2Z-OMW2-30-T APS-2T1G1S2Z-OMW2-30-TE APS-2T1G1S2Z-MW2-30-T APS-2T1G1S2Z-MW2-30-TE APS-2T1G1S2Z-OMW2-3S-T APS-2T1G1S2Z-OMW2-3S-TE APS-2T1G1S2Z-MW2-3S-T APS-2T1G1S2Z-MW2-3S-TE											
APS-2T1G1S2Z-OMW2-40-T APS-2T1G1S2Z-OMW2-40-TE APS-2T1G1S2Z-MW2-40-T APS-2T1G1S2Z-MW2-40-TE APS-2T1G1S2Z-OMW2-4S-T APS-2T1G1S2Z-OMW2-4S-TE APS-2T1G1S2Z-MW2-4S-T APS-2T1G1S2Z-MW2-4S-TE											
APS-2T1G1S2Z-OMW2-20-T APS-2T1G1S2Z-OMW2-20-TE APS-2T1G1S2Z-MW2-20-T APS-2T1G1S2Z-MW2-20-TE APS-2T1G1S2Z-OMW2-2S-T APS-2T1G1S2Z-OMW2-2S-TE APS-2T1G1S2Z-MW2-2S-T APS-2T1G1S2Z-MW2-2S-TE											
APS-2T1G1S2Z-OMW2-30-T APS-2T1G1S2Z-OMW2-30-TE APS-2T1G1S2Z-MW2-30-T APS-2T1G1S2Z-MW2-30-TE APS-2T1G1S2Z-OMW2-3S-T APS-2T1G1S2Z-OMW2-3S-TE APS-2T1G1S2Z-MW2-3S-T APS-2T1G1S2Z-MW2-3S-TE											
APS-2T1G1S2Z-OMW2-40-T APS-2T1G1S2Z-OMW2-40-TE APS-2T1G1S2Z-MW2-40-T APS-2T1G1S2Z-MW2-40-TE APS-2T1G1S2Z-OMW2-4S-T APS-2T1G1S2Z-OMW2-4S-TE APS-2T1G1S2Z-MW2-4S-T APS-2T1G1S2Z-MW2-4S-TE											



Source status												Device status																							
				TR1	TR2	TR3	Q1	Q2	Q3	Q12	Q21	Q22					TR1	TR2	TR3	Q1	Q2	Q3	Q12	Q21	Q22										
Primary				1	1	1/0	1	1	0	0	1	1	Primary				1	1	1/0	1	1	0	0	1	1										
Reserve TR1				1	0	1/0	1	0	0	1	1	1	Reserve TR1				1	0	1/0	1	0	0	1	1	1										
Reserve TR2				0	1	1/0	0	1	0	1	0	0	Reserve TR2				0	1	1/0	0	1	0	1	0	0										
Reserve G				0	0	1	0	0	1	1	0	0	Reserve G				0	0	1	0	0	1	0	0	0										
$P_{TR1} > P_{TR2}$ Full hidden reserve - transformer TR1 Partial hidden reserve - transformer TR2 Partial explicit reserve - generator G												$P_{TR1} > P_{TR2}$ Full hidden reserve - transformer TR1 Partial hidden reserve - transformer TR2 Partial explicit reserve - generator G																							
$P_{TR1} > P_{TR2}$ Full hidden reserve - transformer TR1 Partial hidden reserve - transformer TR2 Partial explicit reserve - generator G												$P_{TR1} = P_{TR2} = P_G$ Full explicit reserve - transformer TR2 Full explicit reserve - generator G																							
Catalog number of automation system												Catalog number of automation system												Catalog number of automation system											
APS-2T1G1S2Z-OMW2-50-T APS-2T1G1S2Z-OMW2-50-TE APS-2T1G1S2Z-MW2-50-T APS-2T1G1S2Z-MW2-50-TE APS-2T1G1S2Z-OMW2-5S-T APS-2T1G1S2Z-OMW2-5S-TE APS-2T1G1S2Z-MW2-5S-T APS-2T1G1S2Z-MW2-5S-TE												APS-2T1G1S2Z-OMW2-60-T APS-2T1G1S2Z-OMW2-60-TE APS-2T1G1S2Z-MW2-60-T APS-2T1G1S2Z-MW2-60-TE APS-2T1G1S2Z-OMW2-6S-T APS-2T1G1S2Z-OMW2-6S-TE APS-2T1G1S2Z-MW2-6S-T APS-2T1G1S2Z-MW2-6S-TE												APS-2T1G1S-OMW3-00-T APS-2T1G1S-OMW3-00-TE APS-2T1G1S-MW3-00-T APS-2T1G1S-MW3-00-TE APS-2T1G1S-OMW3-0S-T APS-2T1G1S-OMW3-0S-TE APS-2T1G1S-MW3-0S-T APS-2T1G1S-MW3-0S-TE											
APS-2T1G1S2Z-OMW2-50-T APS-2T1G1S2Z-OMW2-50-TE APS-2T1G1S2Z-MW2-50-T APS-2T1G1S2Z-MW2-50-TE APS-2T1G1S2Z-OMW2-5S-T APS-2T1G1S2Z-OMW2-5S-TE APS-2T1G1S2Z-MW2-5S-T APS-2T1G1S2Z-MW2-5S-TE												APS-2T1G1S2Z-OMW2-60-T APS-2T1G1S2Z-OMW2-60-TE APS-2T1G1S2Z-MW2-60-T APS-2T1G1S2Z-MW2-60-TE APS-2T1G1S2Z-OMW2-6S-T APS-2T1G1S2Z-OMW2-6S-TE APS-2T1G1S2Z-MW2-6S-T APS-2T1G1S2Z-MW2-6S-TE												APS-2T1G1S-OMW3-00-T APS-2T1G1S-OMW3-00-TE APS-2T1G1S-MW3-00-T APS-2T1G1S-MW3-00-TE APS-2T1G1S-OMW3-0S-T APS-2T1G1S-OMW3-0S-TE APS-2T1G1S-MW3-0S-T APS-2T1G1S-MW3-0S-TE											



CHOICE OF SCHEME AND OPERATING LOGIC

Automatic Power Switch

SELECTION OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.

Source status	Device status						
	TR1	TR2	G	Q1	Q2	Q3	Q23
Primary	1	1/0	1/0	1	0	0	1
Reserve TR2	0	1	1/0	0	1	0	1
Reserve G	0	0	1	0	0	1	0

$P_{TR1} = P_{TR2}$ $P_{TR1} > P_G$
Full explicit reserve - transformer TR2
Partial explicit reserve - generator G

Source status	Device status						
	TR1	TR2	G	Q1	Q2	Q3	Q23
Primary	1	1/0	1/0	1	0	0	1
Reserve TR2	0	1	1/0	0	1	0	1
Reserve G	0	0	1	0	0	1	0

$P_{TR1} = P_{TR2} = P_G$
Full explicit reserve - transformer TR2
Full explicit reserve - generator G

Source status	Device status							
	TR1	TR2	G	Q1	Q2	Q3	Q23	QZ1
Primary	1	1/0	1/0	1	0	0	1	1
Reserve TR2	0	1	1/0	0	1	0	1	1
Reserve G	0	0	1	0	0	1	1	1

$P_{TR1} = P_{TR2} = P_G$
Full explicit reserve - transformer TR2
Full explicit reserve - generator G

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-2T1G1S-OMW3-10-T APS-2T1G1S-OMW3-10-TE APS-2T1G1S-MW3-10-T APS-2T1G1S-MW3-10-TE APS-2T1G1S-OMW3-1S-T APS-2T1G1S-OMW3-1S-TE APS-2T1G1S-MW3-1S-T APS-2T1G1S-MW3-1S-TE	APS-2T1G1S-OMW3-20-T APS-2T1G1S-OMW3-20-TE APS-2T1G1S-MW3-20-T APS-2T1G1S-MW3-20-TE APS-2T1G1S-OMW3-2S-T APS-2T1G1S-OMW3-2S-TE APS-2T1G1S-MW3-2S-T APS-2T1G1S-MW3-2S-TE	APS-2T1G1S1Z-OMW3-00-T APS-2T1G1S1Z-OMW3-00-TE APS-2T1G1S1Z-MW3-00-T APS-2T1G1S1Z-MW3-00-TE APS-2T1G1S1Z-OMW3-0S-T APS-2T1G1S1Z-OMW3-0S-TE APS-2T1G1S1Z-MW3-0S-T APS-2T1G1S1Z-MW3-0S-TE
APS-2T1G1S-OMW3-10-T APS-2T1G1S-OMW3-10-TE APS-2T1G1S-MW3-10-T APS-2T1G1S-MW3-10-TE APS-2T1G1S-OMW3-1S-T APS-2T1G1S-OMW3-1S-TE APS-2T1G1S-MW3-1S-T APS-2T1G1S-MW3-1S-TE	APS-2T1G1S-OMW3-20-T APS-2T1G1S-OMW3-20-TE APS-2T1G1S-MW3-20-T APS-2T1G1S-MW3-20-TE APS-2T1G1S-OMW3-2S-T APS-2T1G1S-OMW3-2S-TE APS-2T1G1S-MW3-2S-T APS-2T1G1S-MW3-2S-TE	PS-2T1G1S1Z-OMW3-00-T APS-2T1G1S1Z-OMW3-00-TE APS-2T1G1S1Z-MW3-00-T APS-2T1G1S1Z-MW3-00-TE APS-2T1G1S1Z-OMW3-0S-T APS-2T1G1S1Z-OMW3-0S-TE APS-2T1G1S1Z-MW3-0S-T APS-2T1G1S1Z-MW3-0S-TE

Source status	Device status							
	TR1	TR2	G	Q1	Q2	Q3	Q23	QZ1
Primary	1	1/0	1/0	1	0	0	1	1
Reserve TR2	0	1	1/0	0	1	0	1	1
Reserve G	0	0	1	0	0	1	1	0

$P_{TR1} = P_{TR2}$ $P_{TR1} > P_G$
Full explicit reserve - transformer TR2
Partial explicit reserve - generator G

Source status	Device status							
	TR1	TR2	G	Q1	Q2	Q3	Q23	QZ1
Primary	1	1/0	1/0	1	0	0	1	1
Reserve TR2	0	1	1/0	0	1	0	1	0
Reserve G	0	0	1	0	0	1	1	0

$P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$
Partial explicit reserve - transformer TR2
Partial explicit reserve - generator G

Source status	Device status							
	TR1	TR2	G	Q1	Q2	Q3	Q23	QZ1
Primary	1	1/0	1/0	1	0	0	1	1
Reserve TR2	0	1	1/0	0	1	0	1	1
Reserve G	0	0	1	0	0	1	1	0

$P_{TR1} = P_{TR2}$ $P_{TR1} > P_G$
Full explicit reserve - transformer TR2
Partial explicit reserve - generator G

Catalog number of automation system	Catalog number of automation system	Catalog number of automation system
APS-2T1G1S1Z-OMW3-10-T APS-2T1G1S1Z-OMW3-10-TE APS-2T1G1S1Z-MW3-10-T APS-2T1G1S1Z-MW3-10-TE APS-2T1G1S1Z-MW3-1S-T APS-2T1G1S1Z-OMW3-1S-TE APS-2T1G1S1Z-MW3-1S-T APS-2T1G1S1Z-MW3-1S-TE	APS-2T1G1S1Z-OMW3-20-T APS-2T1G1S1Z-OMW3-20-TE APS-2T1G1S1Z-MW3-20-T APS-2T1G1S1Z-MW3-20-TE APS-2T1G1S1Z-MW3-2S-T APS-2T1G1S1Z-OMW3-2S-TE APS-2T1G1S1Z-MW3-2S-T APS-2T1G1S1Z-MW3-2S-TE	APS-2T1G1S1Z-OMW3-30-T APS-2T1G1S1Z-OMW3-30-TE APS-2T1G1S1Z-MW3-30-T APS-2T1G1S1Z-MW3-30-TE APS-2T1G1S1Z-OMW3-3S-T APS-2T1G1S1Z-OMW3-3S-TE APS-2T1G1S1Z-MW3-3S-T APS-2T1G1S1Z-MW3-3S-TE
APS-2T1G1S1Z-OMW3-10-T APS-2T1G1S1Z-OMW3-10-TE APS-2T1G1S1Z-MW3-10-T APS-2T1G1S1Z-MW3-10-TE APS-2T1G1S1Z-MW3-1S-T APS-2T1G1S1Z-OMW3-1S-TE APS-2T1G1S1Z-MW3-1S-T APS-2T1G1S1Z-MW3-1S-TE	APS-2T1G1S1Z-OMW3-20-T APS-2T1G1S1Z-OMW3-20-TE APS-2T1G1S1Z-MW3-20-T APS-2T1G1S1Z-MW3-20-TE APS-2T1G1S1Z-OMW3-2S-T APS-2T1G1S1Z-OMW3-2S-TE APS-2T1G1S1Z-MW3-2S-T APS-2T1G1S1Z-MW3-2S-TE	APS-2T1G1S1Z-OMW3-30-T APS-2T1G1S1Z-OMW3-30-TE APS-2T1G1S1Z-MW3-30-T APS-2T1G1S1Z-MW3-30-TE APS-2T1G1S1Z-OMW3-3S-T APS-2T1G1S1Z-OMW3-3S-TE APS-2T1G1S1Z-MW3-3S-T APS-2T1G1S1Z-MW3-3S-TE

CHOICE OF SCHEME AND OPERATING LOGIC

Automatic Power Switch

SELECTION OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs.
LG... 400-4000 A	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs.
LG... 400-4000 A	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs.
	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs.
	Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Trip signaling contact NO Control coil 230 VAC	1 pc. 1 pc.

<table><tr><th>Source status</th><th colspan="8">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q23</th><th>QZ1</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td></tr></table> $P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$ Partial explicit reserve - transformer TR2 Partial explicit reserve - generator G	Source status	Device status									TR1	TR2	G	Q1	Q2	Q3	Q23	QZ1	Primary	1	1/0	1/0	1	0	0	1	1	Reserve TR2	0	1	1/0	0	1	0	1	0	Reserve G	0	0	1	0	0	1	0	0	<table><tr><th>Source status</th><th colspan="9">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q23</th><th>QZ2</th><th>QZ3</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr></table> $P_{TR1} = P_{TR2} = P_G$ Full explicit reserve - transformer TR2 Full explicit reserve - generator G	Source status	Device status										TR1	TR2	G	Q1	Q2	Q3	Q23	QZ2	QZ3	Primary	1	1/0	1/0	1	0	0	1	1	1	Reserve TR2	0	1	1/0	0	1	0	1	1	1	Reserve G	0	0	1	0	0	1	1	1	1	<table><tr><th>Source status</th><th colspan="9">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q23</th><th>QZ2</th><th>QZ3</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>0</td></tr></table> $P_{TR1} = P_{TR2}$ $P_{TR1} > P_G$ Full explicit reserve - transformer TR2 Partial explicit reserve - generator G	Source status	Device status										TR1	TR2	G	Q1	Q2	Q3	Q23	QZ2	QZ3	Primary	1	1/0	1/0	1	0	0	1	1	1	Reserve TR2	0	1	1/0	0	1	0	1	1	1	Reserve G	0	0	1	0	0	1	1	1	0
Source status	Device status																																																																																																																																																		
	TR1	TR2	G	Q1	Q2	Q3	Q23	QZ1																																																																																																																																											
Primary	1	1/0	1/0	1	0	0	1	1																																																																																																																																											
Reserve TR2	0	1	1/0	0	1	0	1	0																																																																																																																																											
Reserve G	0	0	1	0	0	1	0	0																																																																																																																																											
Source status	Device status																																																																																																																																																		
	TR1	TR2	G	Q1	Q2	Q3	Q23	QZ2	QZ3																																																																																																																																										
Primary	1	1/0	1/0	1	0	0	1	1	1																																																																																																																																										
Reserve TR2	0	1	1/0	0	1	0	1	1	1																																																																																																																																										
Reserve G	0	0	1	0	0	1	1	1	1																																																																																																																																										
Source status	Device status																																																																																																																																																		
	TR1	TR2	G	Q1	Q2	Q3	Q23	QZ2	QZ3																																																																																																																																										
Primary	1	1/0	1/0	1	0	0	1	1	1																																																																																																																																										
Reserve TR2	0	1	1/0	0	1	0	1	1	1																																																																																																																																										
Reserve G	0	0	1	0	0	1	1	1	0																																																																																																																																										
Catalog number of automation system	Catalog number of automation system	Catalog number of automation system																																																																																																																																																	
APS-2T1G1S1Z-OMW3-40-T APS-2T1G1S1Z-OMW3-40-TE APS-2T1G1S1Z-MW3-40-T APS-2T1G1S1Z-MW3-40-TE APS-2T1G1S1Z-OMW3-4S-T APS-2T1G1S1Z-OMW3-4S-TE APS-2T1G1S1Z-MW3-4S-T APS-2T1G1S1Z-MW3-4S-TE	APS-2T1G1S2Z-OMW3-00-T APS-2T1G1S2Z-OMW3-00-TE APS-2T1G1S2Z-MW3-00-T APS-2T1G1S2Z-MW3-00-TE APS-2T1G1S2Z-OMW3-0S-T APS-2T1G1S2Z-OMW3-0S-TE APS-2T1G1S2Z-MW3-0S-T APS-2T1G1S2Z-MW3-0S-TE	APS-2T1G1S2Z-OMW3-10-T APS-2T1G1S2Z-OMW3-10-TE APS-2T1G1S2Z-MW3-10-T APS-2T1G1S2Z-MW3-10-TE APS-2T1G1S2Z-OMW3-1S-T APS-2T1G1S2Z-OMW3-1S-TE APS-2T1G1S2Z-MW3-1S-T APS-2T1G1S2Z-MW3-1S-TE																																																																																																																																																	
APS-2T1G1S1Z-OMW3-40-T APS-2T1G1S1Z-OMW3-40-TE APS-2T1G1S1Z-MW3-40-T APS-2T1G1S1Z-MW3-40-TE APS-2T1G1S1Z-OMW3-4S-T APS-2T1G1S1Z-OMW3-4S-TE APS-2T1G1S1Z-MW3-4S-T APS-2T1G1S1Z-MW3-4S-TE	APS-2T1G1S2Z-OMW3-00-T APS-2T1G1S2Z-OMW3-00-TE APS-2T1G1S2Z-MW3-00-T APS-2T1G1S2Z-MW3-00-TE APS-2T1G1S2Z-OMW3-0S-T APS-2T1G1S2Z-OMW3-0S-TE APS-2T1G1S2Z-MW3-0S-T APS-2T1G1S2Z-MW3-0S-TE	APS-2T1G1S2Z-OMW3-10-T APS-2T1G1S2Z-OMW3-10-TE APS-2T1G1S2Z-MW3-10-T APS-2T1G1S2Z-MW3-10-TE APS-2T1G1S2Z-OMW3-1S-T APS-2T1G1S2Z-OMW3-1S-TE APS-2T1G1S2Z-MW3-1S-T APS-2T1G1S2Z-MW3-1S-TE																																																																																																																																																	

TR1 TR2 G Q1 Q2 Q3 QZ2 QZ3																																																																																																																																																								
<table><tr><th>Source status</th><th colspan="9">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>QZ3</th><th>QZ2</th><th>QZ3</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td><td>0</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>0</td></tr></table> $P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$ Partial explicit reserve - transformer TR2 Partial explicit reserve - generator G	Source status	Device status										TR1	TR2	G	Q1	Q2	Q3	QZ3	QZ2	QZ3	Primary	1	1/0	1/0	1	0	0	1	1	1	Reserve TR2	0	1	1/0	0	1	0	1	1	0	Reserve G	0	0	1	0	0	1	1	1	0	<table><tr><th>Source status</th><th colspan="9">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>QZ3</th><th>QZ2</th><th>QZ3</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td><td>0</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>0</td></tr></table> $P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$ Partial explicit reserve - transformer TR2 Partial explicit reserve - generator G	Source status	Device status										TR1	TR2	G	Q1	Q2	Q3	QZ3	QZ2	QZ3	Primary	1	1/0	1/0	1	0	0	1	1	1	Reserve TR2	0	1	1/0	0	1	0	1	1	0	Reserve G	0	0	1	0	0	1	1	1	0	<table><tr><th>Source status</th><th colspan="9">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>QZ3</th><th>QZ2</th><th>QZ3</th></tr><tr><td>Primary</td><td>1</td><td>1/0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td><td>0</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>0</td></tr></table> $P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$ Partial explicit reserve - transformer TR2 Partial explicit reserve - generator G	Source status	Device status										TR1	TR2	G	Q1	Q2	Q3	QZ3	QZ2	QZ3	Primary	1	1/0	1/0	1	0	0	1	1	1	Reserve TR2	0	1	1/0	0	1	0	1	1	0	Reserve G	0	0	1	0	0	1	1	1	0
Source status	Device status																																																																																																																																																							
	TR1	TR2	G	Q1	Q2	Q3	QZ3	QZ2	QZ3																																																																																																																																															
Primary	1	1/0	1/0	1	0	0	1	1	1																																																																																																																																															
Reserve TR2	0	1	1/0	0	1	0	1	1	0																																																																																																																																															
Reserve G	0	0	1	0	0	1	1	1	0																																																																																																																																															
Source status	Device status																																																																																																																																																							
	TR1	TR2	G	Q1	Q2	Q3	QZ3	QZ2	QZ3																																																																																																																																															
Primary	1	1/0	1/0	1	0	0	1	1	1																																																																																																																																															
Reserve TR2	0	1	1/0	0	1	0	1	1	0																																																																																																																																															
Reserve G	0	0	1	0	0	1	1	1	0																																																																																																																																															
Source status	Device status																																																																																																																																																							
	TR1	TR2	G	Q1	Q2	Q3	QZ3	QZ2	QZ3																																																																																																																																															
Primary	1	1/0	1/0	1	0	0	1	1	1																																																																																																																																															
Reserve TR2	0	1	1/0	0	1	0	1	1	0																																																																																																																																															
Reserve G	0	0	1	0	0	1	1	1	0																																																																																																																																															
Catalog number of automation system	Catalog number of automation system	Catalog number of automation system																																																																																																																																																						
APS-2T1G1S2Z-OMW3-20-T APS-2T1G1S2Z-OMW3-20-TE APS-2T1G1S2Z-MW3-20-T APS-2T1G1S2Z-MW3-20-TE APS-2T1G1S2Z-OMW3-2S-T APS-2T1G1S2Z-OMW3-2S-TE APS-2T1G1S2Z-MW3-2S-T APS-2T1G1S2Z-MW3-2S-TE	APS-2T1G1S2Z-OMW3-30-T APS-2T1G1S2Z-OMW3-30-TE APS-2T1G1S2Z-MW3-30-T APS-2T1G1S2Z-MW3-30-TE APS-2T1G1S2Z-OMW3-3S-T APS-2T1G1S2Z-OMW3-3S-TE APS-2T1G1S2Z-MW3-3S-T APS-2T1G1S2Z-MW3-3S-TE	APS-2T1G1S2Z-OMW3-40-T APS-2T1G1S2Z-OMW3-40-TE APS-2T1G1S2Z-MW3-40-T APS-2T1G1S2Z-MW3-40-TE APS-2T1G1S2Z-OMW3-4S-T APS-2T1G1S2Z-OMW3-4S-TE APS-2T1G1S2Z-MW3-4S-T APS-2T1G1S2Z-MW3-4S-TE																																																																																																																																																						
APS-2T1G1S2Z-OMW3-20-T APS-2T1G1S2Z-OMW3-20-TE APS-2T1G1S2Z-MW3-20-T APS-2T1G1S2Z-MW3-20-TE APS-2T1G1S2Z-OMW3-2S-T APS-2T1G1S2Z-OMW3-2S-TE APS-2T1G1S2Z-MW3-2S-T APS-2T1G1S2Z-MW3-2S-TE	APS-2T1G1S2Z-OMW3-30-T APS-2T1G1S2Z-OMW3-30-TE APS-2T1G1S2Z-MW3-30-T APS-2T1G1S2Z-MW3-30-TE APS-2T1G1S2Z-OMW3-3S-T APS-2T1G1S2Z-OMW3-3S-TE APS-2T1G1S2Z-MW3-3S-T APS-2T1G1S2Z-MW3-3S-TE	APS-2T1G1S2Z-OMW3-40-T APS-2T1G1S2Z-OMW3-40-TE APS-2T1G1S2Z-MW3-40-T APS-2T1G1S2Z-MW3-40-TE APS-2T1G1S2Z-OMW3-4S-T APS-2T1G1S2Z-OMW3-4S-TE APS-2T1G1S2Z-MW3-4S-T APS-2T1G1S2Z-MW3-4S-TE																																																																																																																																																						

CHOICE OF SCHEME AND OPERATING LOGIC

Automatic Power Switch

SELECTION OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.

Source status				Device status						
	TR1	TR2	G	Q1	Q2	Q3	Q23	QZ2	QZ3	
Primary	1	1/0	1/0	1	0	0	1	1	1	
Reserve TR2	0	1	1/0	0	1	0	1	0	0	
Reserve G	0	0	1	0	0	1	0	0	0	

$P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$
Partial explicit reserve - transformer TR2
Partial explicit reserve - generator G

Source status				Device status						
	TR1	TR2	G	Q1	Q2	Q3	Q23	QZ1	QZ2	QZ3
Primary	1	1/0	1/0	1	0	0	1	1	1	1
Reserve TR2	0	1	1/0	0	1	0	1	1/0K	1/0K	1/0K
Reserve G	0	0	1	0	0	1	1/0K	1/0K	1/0K	1/0K

$P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$
Partial explicit reserve - transformer TR2
Partial explicit reserve - generator G
Configuration from the terminal - 1/0K

Source status				Device status				
	TR1	TR2	G	Q1	Q2	Q3	Q12	Q23
Primary	1	1	1/0	1	1	0	0	1
Reserve TR1	1	0	1/0	1	0	0	1	1
Reserve TR2	0	1	1/0	0	1	0	1	1
Reserve G	0	0	1	0	0	1	1	1

$P_{TR1} = P_{TR2} = P_G$
Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2
Full explicit reserve - generator G

Source status				Device status				
	TR1	TR2	G	Q1	Q2	Q3	Q12	Q23
Primary	1	1	1/0	1	1	0	0	1
Reserve TR1	1	0	1/0	1	0	0	1	1
Reserve TR2	0	1	1/0	0	1	0	1	1
Reserve G	0	0	1	0	0	1	0	1

$P_{TR1} = P_{TR2}$ $P_{TR1} > P_G$
Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2
Partial explicit reserve - generator G

Source status				Device status				
	TR1	TR2	G	Q1	Q2	Q3	Q12	Q23
Primary	1	1	1/0	1	1	0	0	1
Reserve TR1	1	0	1/0	1	0	0	1	1
Reserve TR2	0	1	1/0	0	1	0	1	1
Reserve G	0	0	1	0	0	1	0	0

$P_{TR1} = P_{TR2}$ $P_{TR1} > P_G$
Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2
Partial explicit reserve - generator G

CHOICE OF SCHEME AND OPERATING LOGIC

Automatic Power Switch

SELECTION OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.

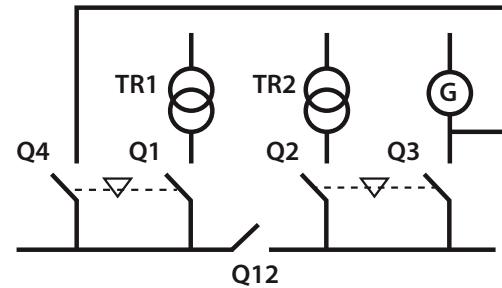
<table><tr><th colspan="4">Source status</th><th colspan="6">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q12</th><th>Q23</th></tr><tr><td>Primary</td><td>1</td><td>1</td><td>1/0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>Reserve TR1</td><td>1</td><td>0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td></tr></table> $P_{TR1} > P_{TR2}$ $P_{TR1} > P_G$ Full hidden reserve - transformer TR1 Partial explicit reserve - transformer TR2 Partial explicit reserve - generator G	Source status				Device status							TR1	TR2	G	Q1	Q2	Q3	Q12	Q23	Primary	1	1	1/0	1	1	0	0	1	Reserve TR1	1	0	1/0	1	0	0	1	1	Reserve TR2	0	1	1/0	0	1	0	0	1	Reserve G	0	0	1	0	0	1	0	0	<table><tr><th colspan="4">Source status</th><th colspan="7">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q12</th><th>Q23</th><th>QZ1</th></tr><tr><td>Primary</td><td>1</td><td>1</td><td>1/0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>Reserve TR1</td><td>1</td><td>0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1/0K</td><td>1/0K</td><td>1/0K</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1/0K</td><td>1/0K</td><td>1/0K</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1/0K</td><td>1/0K</td><td>1/0K</td></tr></table> Partial hidden reserve - transformer TR1 Partial hidden reserve - transformer TR2 Partial explicit reserve - generator G Configuration from the terminal - 1/0K	Source status				Device status								TR1	TR2	G	Q1	Q2	Q3	Q12	Q23	QZ1	Primary	1	1	1/0	1	1	0	0	1	1	Reserve TR1	1	0	1/0	1	0	0	1/0K	1/0K	1/0K	Reserve TR2	0	1	1/0	0	1	0	1/0K	1/0K	1/0K	Reserve G	0	0	1	0	0	1	1/0K	1/0K	1/0K
Source status				Device status																																																																																																																	
	TR1	TR2	G	Q1	Q2	Q3	Q12	Q23																																																																																																													
Primary	1	1	1/0	1	1	0	0	1																																																																																																													
Reserve TR1	1	0	1/0	1	0	0	1	1																																																																																																													
Reserve TR2	0	1	1/0	0	1	0	0	1																																																																																																													
Reserve G	0	0	1	0	0	1	0	0																																																																																																													
Source status				Device status																																																																																																																	
	TR1	TR2	G	Q1	Q2	Q3	Q12	Q23	QZ1																																																																																																												
Primary	1	1	1/0	1	1	0	0	1	1																																																																																																												
Reserve TR1	1	0	1/0	1	0	0	1/0K	1/0K	1/0K																																																																																																												
Reserve TR2	0	1	1/0	0	1	0	1/0K	1/0K	1/0K																																																																																																												
Reserve G	0	0	1	0	0	1	1/0K	1/0K	1/0K																																																																																																												
Catalog number of automation system	Catalog number of automation system																																																																																																																				
APS-2T1G2S-OMW3-30-T APS-2T1G2S-OMW3-30-T APS-2T1G2S-MW3-30-TE APS-2T1G2S-MW3-30-TE APS-2T1G2S-OMW3-3S-T APS-2T1G2S-OMW3-3S-TE APS-2T1G2S-MW3-3S-T APS-2T1G2S-MW3-3S-TE	APS-2T1G2S1Z-OMW3-K0-T APS-2T1G2S1Z-OMW3-K0-T APS-2T1G2S1Z-MW3-K0-TE APS-2T1G2S1Z-MW3-K0-TE APS-2T1G2S1Z-OMW3-KS-T APS-2T1G2S1Z-OMW3-KS-TE APS-2T1G2S1Z-MW3-KS-T APS-2T1G2S1Z-MW3-KS-TE																																																																																																																				
APS-2T1G2S-OMW3-30-T APS-2T1G2S-OMW3-30-T APS-2T1G2S-MW3-30-TE APS-2T1G2S-MW3-30-TE APS-2T1G2S-OMW3-3S-T APS-2T1G2S-OMW3-3S-TE APS-2T1G2S-MW3-3S-T APS-2T1G2S-MW3-3S-TE	APS-2T1G2S1Z-OMW3-K0-T APS-2T1G2S1Z-OMW3-K0-T APS-2T1G2S1Z-MW3-K0-TE APS-2T1G2S1Z-MW3-K0-TE APS-2T1G2S1Z-OMW3-KS-T APS-2T1G2S1Z-OMW3-KS-TE APS-2T1G2S1Z-MW3-KS-T APS-2T1G2S1Z-MW3-KS-TE																																																																																																																				

<table><tr><th colspan="3">Source status</th><th colspan="9">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q12</th><th>Q23</th><th>QZ1</th><th>QZ2</th></tr><tr><td>Primary</td><td>1</td><td>1</td><td>1/0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve TR1</td><td>1</td><td>0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1/0K</td><td>1/0K</td><td>1/0K</td><td>1/0K</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1/0K</td><td>1/0K</td><td>1/0K</td><td>1/0K</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1/0K</td><td>1/0K</td><td>1/0K</td><td>1/0K</td></tr></table> Partial hidden reserve - transformer TR1 Partial hidden reserve - transformer TR2 Partial explicit reserve - generator G Configuration from the terminal - 1/0K	Source status			Device status										TR1	TR2	G	Q1	Q2	Q3	Q12	Q23	QZ1	QZ2	Primary	1	1	1/0	1	1	0	0	1	1	1	Reserve TR1	1	0	1/0	1	0	0	1/0K	1/0K	1/0K	1/0K	Reserve TR2	0	1	1/0	0	1	0	1/0K	1/0K	1/0K	1/0K	Reserve G	0	0	1	0	0	1	1/0K	1/0K	1/0K	1/0K	<table><tr><th colspan="3">Source status</th><th colspan="10">Device status</th></tr><tr><th></th><th>TR1</th><th>TR2</th><th>G</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q12</th><th>Q23</th><th>QZ1</th><th>QZ2</th><th>QZ3</th></tr><tr><td>Primary</td><td>1</td><td>1</td><td>1/0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Reserve TR1</td><td>1</td><td>0</td><td>1/0</td><td>1</td><td>0</td><td>0</td><td>1/0K</td><td>1/0K</td><td>1/0K</td><td>1/0K</td><td>1/0K</td></tr><tr><td>Reserve TR2</td><td>0</td><td>1</td><td>1/0</td><td>0</td><td>1</td><td>0</td><td>1/0K</td><td>1/0K</td><td>1/0K</td><td>1/0K</td><td>1/0K</td></tr><tr><td>Reserve G</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1/0K</td><td>1/0K</td><td>1/0K</td><td>1/0K</td><td>1/0K</td></tr></table> Partial hidden reserve - transformer TR1 Partial hidden reserve - transformer TR2 Partial explicit reserve - generator G Configuration from the terminal - 1/0K	Source status			Device status											TR1	TR2	G	Q1	Q2	Q3	Q12	Q23	QZ1	QZ2	QZ3	Primary	1	1	1/0	1	1	0	0	1	1	1	1	Reserve TR1	1	0	1/0	1	0	0	1/0K	1/0K	1/0K	1/0K	1/0K	Reserve TR2	0	1	1/0	0	1	0	1/0K	1/0K	1/0K	1/0K	1/0K	Reserve G	0	0	1	0	0	1	1/0K	1/0K	1/0K	1/0K	1/0K
Source status			Device status																																																																																																																																										
	TR1	TR2	G	Q1	Q2	Q3	Q12	Q23	QZ1	QZ2																																																																																																																																			
Primary	1	1	1/0	1	1	0	0	1	1	1																																																																																																																																			
Reserve TR1	1	0	1/0	1	0	0	1/0K	1/0K	1/0K	1/0K																																																																																																																																			
Reserve TR2	0	1	1/0	0	1	0	1/0K	1/0K	1/0K	1/0K																																																																																																																																			
Reserve G	0	0	1	0	0	1	1/0K	1/0K	1/0K	1/0K																																																																																																																																			
Source status			Device status																																																																																																																																										
	TR1	TR2	G	Q1	Q2	Q3	Q12	Q23	QZ1	QZ2	QZ3																																																																																																																																		
Primary	1	1	1/0	1	1	0	0	1	1	1	1																																																																																																																																		
Reserve TR1	1	0	1/0	1	0	0	1/0K	1/0K	1/0K	1/0K	1/0K																																																																																																																																		
Reserve TR2	0	1	1/0	0	1	0	1/0K	1/0K	1/0K	1/0K	1/0K																																																																																																																																		
Reserve G	0	0	1	0	0	1	1/0K	1/0K	1/0K	1/0K	1/0K																																																																																																																																		
Catalog number of automation system	Catalog number of automation system																																																																																																																																												
APS-2T1G2S2Z-OMW3-K0-T APS-2T1G2S2Z-OMW3-K0-T APS-2T1G2S2Z-MW3-K0-TE APS-2T1G2S2Z-MW3-K0-TE APS-2T1G2S2Z-OMW3-KS-T APS-2T1G2S2Z-OMW3-KS-TE APS-2T1G2S2Z-MW3-KS-T APS-2T1G2S2Z-MW3-KS-TE	APS-2T1G2S3Z-OMW3-K0-T APS-2T1G2S3Z-OMW3-K0-T APS-2T1G2S3Z-MW3-K0-TE APS-2T1G2S3Z-MW3-K0-TE APS-2T1G2S3Z-OMW3-KS-T APS-2T1G2S3Z-OMW3-KS-TE APS-2T1G2S3Z-MW3-KS-T APS-2T1G2S3Z-MW3-KS-TE																																																																																																																																												
APS-2T1G2S2Z-OMW3-K0-T APS-2T1G2S2Z-OMW3-K0-T APS-2T1G2S2Z-MW3-K0-TE APS-2T1G2S2Z-MW3-K0-TE APS-2T1G2S2Z-OMW3-KS-T APS-2T1G2S2Z-OMW3-KS-TE APS-2T1G2S2Z-MW3-KS-T APS-2T1G2S2Z-MW3-KS-TE	APS-2T1G2S3Z-OMW3-K0-T APS-2T1G2S3Z-OMW3-K0-T APS-2T1G2S3Z-MW3-K0-TE APS-2T1G2S3Z-MW3-K0-TE APS-2T1G2S3Z-OMW3-KS-T APS-2T1G2S3Z-OMW3-KS-TE APS-2T1G2S3Z-MW3-KS-T APS-2T1G2S3Z-MW3-KS-TE																																																																																																																																												

Automatic Power Switch

SELECTION OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO	1 pc. 1 pc. 1 pc. 3 pcs.
LG... 400-4000 A	Auxiliary contacts NC Trip signaling contact	3 pcs. 1 pc.
	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO	1 pc. 1 pc. 1 pc. 4 pcs.
LG... 400-4000 A	Auxiliary contacts NC Trip signaling contact	4 pcs. 1 pc.
	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs.
	Mechanical interlock for 2 or 3 devices	1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.



Source status				Device status				
	TR1	TR2	G	Q1	Q2	Q3	Q4	Q12
Primary	1	1	1/0	1	1	0	0	0
Reserve TR1	1	0	1/0	1	0	0	0	1
Reserve TR2	0	1	1/0	0	1	0	0	1
Reserve G	0	0	1	0	0	1	1	0

$$P_{TR1} = P_{TR2} = P_G$$

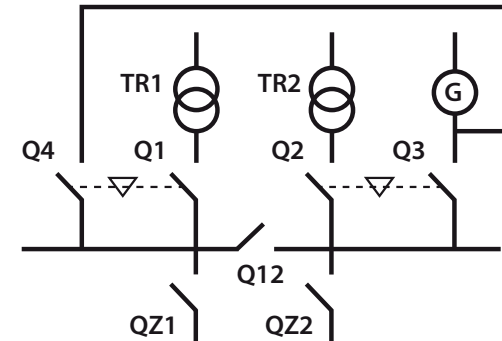
Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2
Full explicit reserve - generator G

Source status				Device status						
	TR1	TR2	G	Q1	Q2	Q3	Q4	Q12	QZ1	QZ2
Primary	1	1	1/0	1	1	0	0	0	1	1
Reserve TR1	1	0	1/0	1	0	0	0	1	1	1
Reserve TR2	0	1	1/0	0	1	0	0	1	1	1
Reserve G	0	0	1	0	0	1	1	0	1	1

$$P_{TR1} = P_{TR2} = P_G$$

Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2
Full explicit reserve - generator G

Catalog number of automation system	Catalog number of automation system
APS-2T1G1G1S-OMW3-00-T APS-2T1G1G1S-OMW3-00-T APS-2T1G1G1S-MW3-00-TE APS-2T1G1G1S-MW3-00-TE APS-2T1G1G1S-OMW3-0S-T APS-2T1G1G1S-OMW3-0S-TE APS-2T1G1G1S-MW3-0S-T APS-2T1G1G1S-MW3-0S-TE	APS-2T1G1G1S2Z-OMW3-00-T APS-2T1G1G1S2Z-OMW3-00-T APS-2T1G1G1S2Z-MW3-00-TE APS-2T1G1G1S2Z-MW3-00-TE APS-2T1G1G1S2Z-OMW3-0S-T APS-2T1G1G1S2Z-OMW3-0S-TE APS-2T1G1G1S2Z-MW3-0S-T APS-2T1G1G1S2Z-MW3-0S-TE
APS-2T1G1G1S-OMW3-00-T APS-2T1G1G1S-OMW3-00-T APS-2T1G1G1S-MW3-00-TE APS-2T1G1G1S-MW3-00-TE APS-2T1G1G1S-OMW3-0S-T APS-2T1G1G1S-OMW3-0S-TE APS-2T1G1G1S-MW3-0S-T APS-2T1G1G1S-MW3-0S-TE	APS-2T1G1G1S2Z-OMW3-00-T APS-2T1G1G1S2Z-OMW3-00-T APS-2T1G1G1S2Z-MW3-00-TE APS-2T1G1G1S2Z-MW3-00-TE APS-2T1G1G1S2Z-OMW3-0S-T APS-2T1G1G1S2Z-OMW3-0S-TE APS-2T1G1G1S2Z-MW3-0S-T APS-2T1G1G1S2Z-MW3-0S-TE

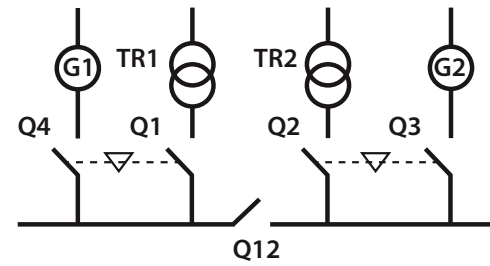


Source status				Device status						
	TR1	TR2	G	Q1	Q2	Q3	Q4	Q12	QZ1	QZ2
Primary	1	1	1/0	1	1	0	0	0	1	1
Reserve TR1	1	0	1/0	1	0	0	0	1	1	1
Reserve TR2	0	1	1/0	0	1	0	0	1	1	1
Reserve G	0	0	1	0	0	1	1	0	1/0K	1/0K

$$P_{TR1} = P_{TR2} > P_G$$

Full hidden reserve - transformer TR1, Full hidden reserve - transformer TR2
Full explicit reserve - generator G
Configuration from the terminal - 1/OK

Catalog number of automation system	Catalog number of automation system
APS-2T1G1G1S2Z-OMW3-K0-T APS-2T1G1G1S2Z-OMW3-K0-T APS-2T1G1G1S2Z-MW3-K0-TE APS-2T1G1G1S2Z-MW3-K0-TE APS-2T1G1G1S2Z-OMW3-KS-T APS-2T1G1G1S2Z-OMW3-KS-TE APS-2T1G1G1S2Z-MW3-KS-T APS-2T1G1G1S2Z-MW3-KS-TE	APS-2T2G1S-OMW3-00-T APS-2T2G1S-OMW3-00-T APS-2T2G1S-MW3-00-TE APS-2T2G1S-MW3-00-TE APS-2T2G1S-OMW3-0S-T APS-2T2G1S-OMW3-0S-TE APS-2T2G1S-MW3-0S-T APS-2T2G1S-MW3-0S-TE
APS-2T1G1G1S2Z-OMW3-K0-T APS-2T1G1G1S2Z-OMW3-K0-T APS-2T1G1G1S2Z-MW3-K0-TE APS-2T1G1G1S2Z-MW3-K0-TE APS-2T1G1G1S2Z-OMW3-KS-T APS-2T1G1G1S2Z-OMW3-KS-TE APS-2T1G1G1S2Z-MW3-KS-T APS-2T1G1G1S2Z-MW3-KS-TE	APS-2T2G1S-OMW3-00-T APS-2T2G1S-OMW3-00-T APS-2T2G1S-MW3-00-TE APS-2T2G1S-MW3-00-TE APS-2T2G1S-OMW3-0S-T APS-2T2G1S-OMW3-0S-TE APS-2T2G1S-MW3-0S-T APS-2T2G1S-MW3-0S-TE



Source status					Device status				
	TR1	TR2	G1	G2	Q1	Q2	Q3	Q4	Q12
Primary	1	1	1/0	1/0	1	1	0	0	0
Reserve TR1	1	0	1/0	1/0	1	0	0	0	1
Reserve TR2	0	1	1/0	1/0	0	1	0	0	1
Reserve G1,G2	0	0	1	1	0	0	1	1	0
Reserve G1	0	0	1	0	0	0	0	1	0
Reserve G2	0	0	0	1	0	0	1	0	0

Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2
Partial explicit reserve - generator G1
Partial explicit reserve - generator G2

CHOICE OF SCHEME AND
OPERATING LOGIC

Automatic Power Switch

SELECTION
OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.

Source status	Device status											
	TR1	TR2	G1	G2	Q1	Q2	Q3	Q4	Q12	QZ1	QZ2	
Primary	1	1	1/0	1/0	1	1	0	0	0	1	1	
Reserve TR1	1	0	1/0	1/0	1	0	0	0	1	1	1	
Reserve TR2	0	1	1/0	1/0	0	1	0	0	1	1	1	
Reserve G1,G2	0	0	1	1	0	0	1	1	0	1	1	
Reserve G1	0	0	1	0	0	0	0	1	0	1	0	
Reserve G2	0	0	0	1	0	0	1	0	0	0	1	

Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2
Partial explicit reserve - generator G1
Partial explicit reserve - generator G2

Source status	Device status											
	TR1	TR2	G1	G2	Q1	Q2	Q3	Q4	Q12	QZ1	QZ2	
Primary	1	1	1/0	1/0	1	1	0	0	0	1	1	
Reserve TR1	1	0	1/0	1/0	1	0	0	0	1	1	1	
Reserve TR2	0	1	1/0	1/0	0	1	0	0	1	1	1	
Reserve G1,G2	0	0	1	1	0	0	1	1	0	1	1	
Reserve G1	0	0	1	0	0	0	0	1	1	1/0K	1/0K	
Reserve G2	0	0	0	1	0	0	1	0	1	1/0K	1/0K	

Full hidden reserve - transformer TR1, Full hidden reserve - transformer TR2
Partial explicit reserve - generator G1
Partial explicit reserve - generator G2
Configuration from the terminal - 1/0K

Catalog number of automation system	Catalog number of automation system
APS-2T2G1S2Z-OMW3-00-T APS-2T2G1S2Z-OMW3-00-T APS-2T2G1S2Z-MW3-00-TE APS-2T2G1S2Z-MW3-00-TE APS-2T2G1S2Z-OMW3-0S-T APS-2T2G1S2Z-OMW3-0S-TE APS-2T2G1S2Z-MW3-0S-T APS-2T2G1S2Z-MW3-0S-TE	APS-2T2G1S2Z-OMW3-K0-T APS-2T2G1S2Z-OMW3-K0-T APS-2T2G1S2Z-MW3-K0-TE APS-2T2G1S2Z-MW3-K0-TE APS-2T2G1S2Z-OMW3-KS-T APS-2T2G1S2Z-OMW3-KS-TE APS-2T2G1S2Z-MW3-KS-T APS-2T2G1S2Z-MW3-KS-TE
APS-2T2G1S2Z-OMW3-00-T APS-2T2G1S2Z-OMW3-00-T APS-2T2G1S2Z-MW3-00-TE APS-2T2G1S2Z-MW3-00-TE APS-2T2G1S2Z-OMW3-0S-T APS-2T2G1S2Z-OMW3-0S-TE APS-2T2G1S2Z-MW3-0S-T APS-2T2G1S2Z-MW3-0S-TE	APS-2T2G1S2Z-OMW3-K0-T APS-2T2G1S2Z-OMW3-K0-T APS-2T2G1S2Z-MW3-K0-TE APS-2T2G1S2Z-MW3-K0-TE APS-2T2G1S2Z-OMW3-KS-T APS-2T2G1S2Z-OMW3-KS-TE APS-2T2G1S2Z-MW3-KS-T APS-2T2G1S2Z-MW3-KS-TE

Source status	Device status											
	TR1	TR2	G1	G2	Q1	Q2	Q3	Q4	Q12	QZ1	QZ2	
Primary	1	1	1/0	1/0	1	1	0	0	0	1	1	
Reserve TR1	1	0	1/0	1/0	1	0	0	0	1	1	1	
Reserve TR2	0	1	1/0	1/0	0	1	0	0	1	1	1	
Reserve G1,G2	0	0	1	1	0	0	1	1	0	1	1	
Reserve G1	0	0	1	0	0	0	0	1	1	1/0K	1/0K	
Reserve G2	0	0	0	1	0	0	1	0	1	1/0K	1/0K	

Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2
Partial explicit reserve - generator G1
Partial explicit reserve - generator G2

Catalog number of automation system	Catalog number of automation system
APS-2T2G4S-OMW3-00-T APS-2T2G4S-OMW3-00-TE APS-2T2G4S-MW3-00-T APS-2T2G4S-MW3-00-TE APS-2T2G4S-OMW3-0S-T APS-2T2G4S-OMW3-0S-TE APS-2T2G4S-MW3-0S-T APS-2T2G4S-MW3-0S-TE	APS-2T2G4S-OMW3-00-T APS-2T2G4S-OMW3-00-TE APS-2T2G4S-MW3-00-T APS-2T2G4S-MW3-00-TE APS-2T2G4S-OMW3-0S-T APS-2T2G4S-OMW3-0S-TE APS-2T2G4S-MW3-0S-T APS-2T2G4S-MW3-0S-TE
APS-2T2G4S-OMW3-00-T APS-2T2G4S-OMW3-00-TE APS-2T2G4S-MW3-00-T APS-2T2G4S-MW3-00-TE APS-2T2G4S-OMW3-0S-T APS-2T2G4S-OMW3-0S-TE APS-2T2G4S-MW3-0S-T APS-2T2G4S-MW3-0S-TE	APS-2T2G4S-OMW3-00-T APS-2T2G4S-OMW3-00-TE APS-2T2G4S-MW3-00-T APS-2T2G4S-MW3-00-TE APS-2T2G4S-OMW3-0S-T APS-2T2G4S-OMW3-0S-TE APS-2T2G4S-MW3-0S-T APS-2T2G4S-MW3-0S-TE

CHOICE OF SCHEME AND OPERATING LOGIC

Automatic Power Switch

SELECTION OF PERFORMANCE APPARATUS

Rated current [A]	Equipment required for cooperation with APS	Quantity
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GT... 400-1600 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact	1 pc. 1 pc. 1 pc. 4 pcs. 4 pcs. 1 pc.
LG... 400-4000 A	Mechanical interlock for 2 or 3 devices	option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 3 pcs. 3 pcs. 1 pc. option
GG... 400-6400 A	Motor drive 230 VAC Shunt opening release ST1 230 VAC Shunt opening release ST2 230 VAC Closing coil CC 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact Mechanical interlock for 2 or 3 devices	1 pc. 1 pc. 1 pc. 1 pc. 8 pcs. 8 pcs. 1 pc. option
DEVICE: CIRCUIT BREAKER DISCONNECTOR REMOVABLE VERSION	The apparatus should be retrofitted with: Contacts of "Inserted" position * Work Contacts of "Test" position * Test Contacts of "Extended" position * Disconnection	1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CIRCUIT BREAKER DISCONNECTOR	Motor drive 230 VAC Auxiliary contacts NO Auxiliary contacts NC Trip signaling contact NO	1 pc. 1 pc. 1 pc. 1 pc.
DEVICE: DUMPING CONTACTOR	Auxiliary contacts NO Auxiliary contacts NC Control coil 230 VAC	2 pcs. 1 pc. 1 pc.

Source status					Device status									
	TR1	TR2	G1	G2	Q1	Q2	Q3	Q4	Q12	Q21	Q23	Q41	QZ1	QZ2
Primary	1	1	1/0	1/0	1	1	0	0	0	0	1	1	1	1
Reserve TR1	1	0	1/0	1/0	1	0	0	0	1	0	1	1	0	0
Reserve TR2	0	1	1/0	1/0	0	1	0	0	0	1	1	1	0	0
Reserve G1,G2	0	0	1	1	0	0	1	1	0	0	0	0	0	0
Reserve G1	0	0	1	0	0	0	0	1	0	0	0	0	0	0
Reserve G2	0	0	0	1	0	0	1	0	0	0	0	0	0	0

Partial hidden reserve - transformer TR1
Partial hidden reserve - transformer TR2
Partial explicit reserve - generator G1
Partial explicit reserve - generator G2

Catalog number of automation system

APS-2T2G4S2Z-OMW3-00-T
APS-2T2G4S2Z-OMW3-00-TE
APS-2T2G4S2Z-MW3-00-T
APS-2T2G4S2Z-MW3-00-TE
APS-2T2G4S2Z-OMW3-0S-T
APS-2T2G4S2Z-OMW3-0S-TE
APS-2T2G4S2Z-MW3-0S-T
APS-2T2G4S2Z-MW3-0S-TE

APS-2T2G4S2Z-OMW3-00-T
APS-2T2G4S2Z-OMW3-00-TE
APS-2T2G4S2Z-MW3-00-T
APS-2T2G4S2Z-MW3-00-TE
APS-2T2G4S2Z-OMW3-0S-T
APS-2T2G4S2Z-OMW3-0S-TE
APS-2T2G4S2Z-MW3-0S-T
APS-2T2G4S2Z-MW3-0S-TE

Source status					Device status									
	TR1	TR2	G1	G2	Q1	Q2	Q3	Q4	Q12	Q21				
Primary	1	1	1/0	1/0	1	1	0	0	0	0				
Reserve TR1	1	0	1/0	1/0	1	0	0	0	1	0				
Reserve TR2	0	1	1/0	1/0	0	1	0	0	0	1				
Reserve G1,G2	0	0	1	1	0	0	1	1	0	0				
Reserve G1	0	0	1	0	0	0	0	1	1	0				
Reserve G2	0	0	0	1	0	0	1	0	0	1				

Full hidden reserve - transformer TR1
Full hidden reserve - transformer TR2
Full explicit reserve - generator G

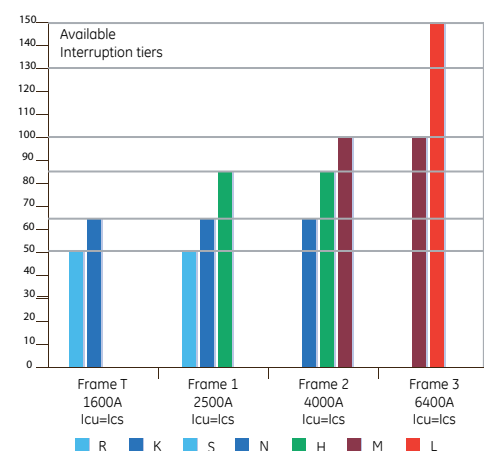
Catalog number of automation system

APS-2T2G2S-OMW3-00-T
APS-2T2G2S-OMW3-00-TE
APS-2T2G2S-MW3-00-T
APS-2T2G2S-MW3-00-TE
APS-2T2G2S-OMW3-0S-T
APS-2T2G2S-OMW3-0S-TE
APS-2T2G2S-MW3-0S-T
APS-2T2G2S-MW3-0S-TE

APS-2T2G2S2Z-OMW3-00-T
APS-2T2G2S2Z-OMW3-00-TE
APS-2T2G2S2Z-MW3-00-T
APS-2T2G2S2Z-MW3-00-TE
APS-2T2G2S2Z-OMW3-0S-T
APS-2T2G2S2Z-OMW3-0S-TE
APS-2T2G2S2Z-MW3-0S-T
APS-2T2G2S2Z-MW3-0S-TE



EntelliGuard* G - air circuit breakers



The EntelliGuard* range of power circuit breakers encompasses a line of three and four pole air circuit breakers with nominal currents ranging from 400 to 6400A in four basic frames.

High strength, comprehensive possibilities

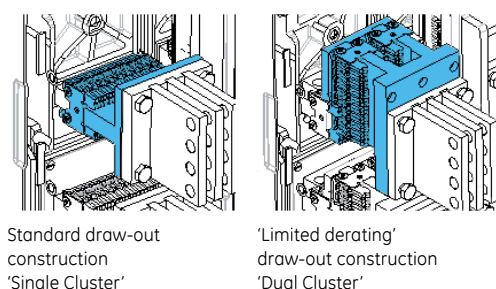
EntelliGuard* G circuit breakers are a new series of air circuit breakers that have been developed based on existing M-PACT and ME07 families. They offer a really global platform that meets IEC, ANSI and UL standards. The breakers are available in the range of 400 ÷ 6400 A in three housings, with disconnection parameters for short-circuit current up to 150 kA. Their design provides a unique combination of high short-circuit current immunity with quick disconnection and selectivity.

The circuit breaker includes the most innovative EntelliGuard* G power trigger, which adds the latest technical solutions in the field of system security, reliability, measurement, relays and communication using Modbus or Profibus protocols. It is available in four basic versions E, S, N and H. Each of them has the same mechanical design including a screen with an ammeter.

Selective and fast

EntelliGuard* circuit breakers combine the high speed shutdown of huge short-circuit currents in about 40 milliseconds or less while maintaining selectivity.

In the event of short-circuit, the circuit breaker design allows it to be kept closed for a short period of time. The time the circuit breaker stays closed results from the user-selected setting if the current value does not exceed the range of quick short-circuit protection OR is equal to 15 milliseconds if the short-circuit current reaches the value of the immediate short-circuit protection. Immediate protection system can be programmed in such a way that under normal conditions it waits for operating of the circuit breaker on the receiving side.



No compromise ... Reliable

The breakers are designed to provide the user with years of safe and reliable operation by combining high electrical and mechanical strength, market-leading thermal parameters when built into an array or device, and allowing a lot of space for connecting incoming and outgoing rail wires and cables. Making connections is possible either from the front or from the back. Regardless of the number of poles, rated current or rated disconnection parameters, each of the two configurations has the same height, depth and dimensions of circuit breakers.

EntelliGuard* circuit breakers has been designed as a modern 'Power Circuit Breaker' without neglecting GE's heritage of more than 50 years in building air circuit breakers.

These power circuit breakers uncompromisingly combine the properties of the older M-PACT Plus 1 and 2, ME07 and Wavepro lines with modern state of the art technology.

The result: a device that with a proven electrical and mechanical life span independent of its operation mode: be it manual, electrical or by means of the installed shunt and/or undervoltage releases.

Uncompromising ... Safety

In order to protect service personnel against the hazards of short circuits whilst working on a power distribution system EntelliGuard power circuit breakers can be equipped with a so called RELT switch input. This allows the breaker to be switched to its lowest short-circuit settings on service, thus limiting the hazards concerned.

The RELT switch input (with feedback) is available on the breaker auxiliary terminals or can be accessed through the communication bus.

State of the art electronic trip unit

All EntelliGuard power circuit breakers are equipped with a digital electronic trip unit, available in four basic versions: E, S, N and H. Each has a common design that comes with a screen providing an ammeter and allowing a simple and accurate menu-driven adjustment of the breaker parameters across a broad current range.

All functionality is menu-driven accessed by using 4 setting and one enter key thus allowing a fast and accurate setting of the device. The user can set the device to an automatic or manual reset after a fault.

Main adjustment possibilities

- LT – LTD overload protection
- ST – STD timed short-circuit protection
- I instantaneous short-circuit protection
- LT – B and LT – C protection options (thermomagnetic characteristics)
- LT – F protection options (fuse features)
- RELT protection options (short-circuit protection temporary reduced)
- GF protection options (ground fault "differential" or "return")
- EF security options (UEF, REF, and SEF)
- Signaling and protection functions
- Measurement, control and communication functions

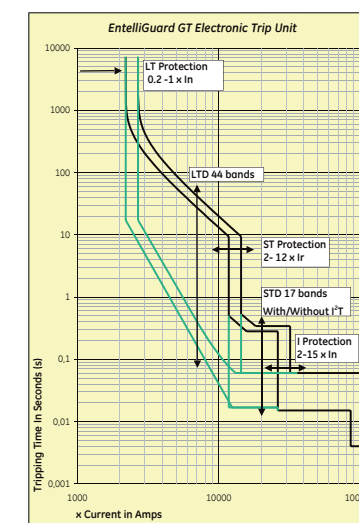
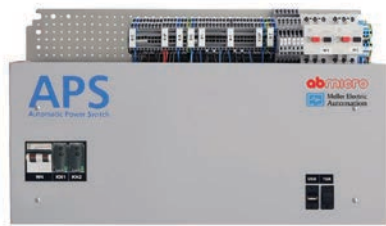


Table of dimensions for mounting APS automation boards

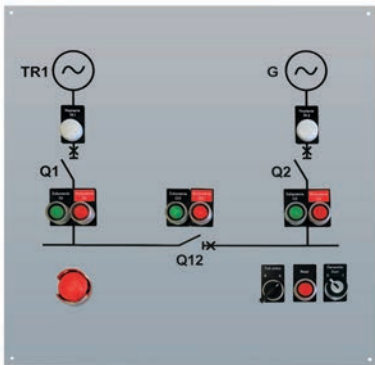
ARS AUTOMATION TYPE ARS	BOARD DIMENSIONS
APS - 2T - ... - ... - ... APS - 1T1G - ... - ... - ... APS - 2T1Z - ... - ... - ... APS - 2T2Z - ... - ... - ... APS - 1T1G1Z - ... - ... - ... APS - 2T1S - ... - ... - ... APS - 1T1G1S - ... - ... - ...	565mm x 350mm x 130 mm
APS - 1T1G2Z - ... - ... - ... APS - 2T1S1Z - ... - ... - ... APS - 2T1S2Z - ... - ... - ... APS - 1T1G1S1Z - ... - ... - ... APS - 1T1G1S2Z - ... - ... - ... APS - 2T2S - ... - ... - ... APS - 2T2S1Z - ... - ... - ... APS - 2T2S2Z - ... - ... - ... APS - 1T1G2S - ... - ... - ... APS - 1T1G2S1Z - ... - ... - ... APS - 1T1G2S2Z - ... - ... - ... APS - 2T1G - ... - ... - ... APS - 2T1G1Z - ... - ... - ... APS - 2T1G2Z - ... - ... - ... APS - 2T1G3Z - ... - ... - ... APS - 3T - ... - ... - ... APS - 3T1Z - ... - ... - ... APS - 3T2Z - ... - ... - ... APS - 3T3Z - ... - ... - ... APS - 2T1G1S - ... - ... - ... APS - 2T1G1S1Z - ... - ... - ... APS - 2T1G1S2Z - ... - ... - ... APS - 2T1G2S - ... - ... - ... APS - 2T1G1G1S - ... - ... - ...	565mm x 450mm x 130 mm
APS - 2T1G1S3Z - ... - ... - ... APS - 2T1G2S1Z - ... - ... - ... APS - 2T1G2S2Z - ... - ... - ... APS - 2T1G2S3Z - ... - ... - ... APS - 2T1G1G1S - ... - ... - ... APS - 2T1G1G1S2Z - ... - ... - ... APS - 2T2G1S - ... - ... - ... APS - 2T2G1S2Z - ... - ... - ... APS - 2T2G4S - ... - ... - ... APS - 2T2G4S2Z - ... - ... - ... APS - 2T2G2S - ... - ... - ... APS - 2T2G2S2Z - ... - ... - ...	550mm x 765mm x 130 mm



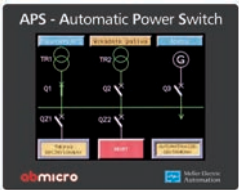
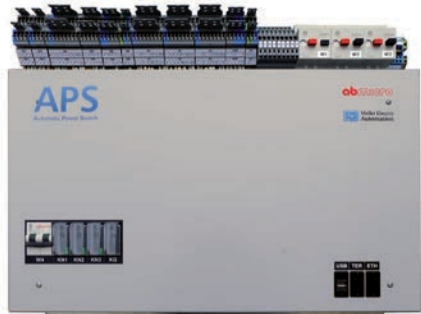
APS-2T-OMW1-0S



APS-2T1S-OMW1-2S



PS-1T1G1S (retrofit synoptic board)



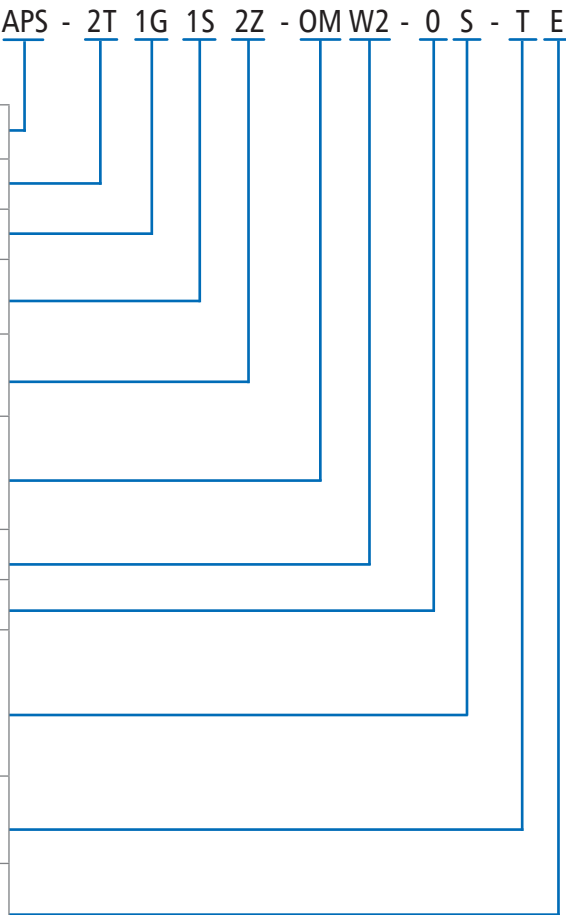
APS-2T1G2Z-MW2-3S-T

Name coding rules of the automatic reserve switching of APS type

In this catalog, a description in the form of a code is used. It contain a number of information enabling the selection of the APS version corresponding to the design requirements.

The following is a description and meaning of the individual components forming the code describing in details the version of the various APS automation systems listed in the catalog.

Automatic Power Switch	
Number of transformer sources	1T, 2T or 3T
Number of generator sources	no description, 1G or 2G
Number of clutches	no description, 1S, 2S or 4S
Number of power dump devices	no description, 1Z, 2Z or 3Z
Manufacturing type: (plug connectors plus synoptic plate)	classic connectors - OM plug connectors - M retrofit version - R
Software version	W1, W2 or W3
Logic table version	0,1,2,3,4,5
Version of the synoptic: no synoptic synoptic elements (loose) assembled synoptic plate (retrofit)	- 0 - S - R
Optional equipment: touch screen HMI terminal	- T
Optional equipment: Ethernet Modbus TCP/IP communication	- E



Example:

APS - 2T1S - OMW1 - 2S - T

Automation system supporting power supply from two transformer sources separated by a clutch.

It is equipped with classic connectors, with program of the W1 version, logic table 2, elements for making the synoptic panel and a touchscreen operator terminal.

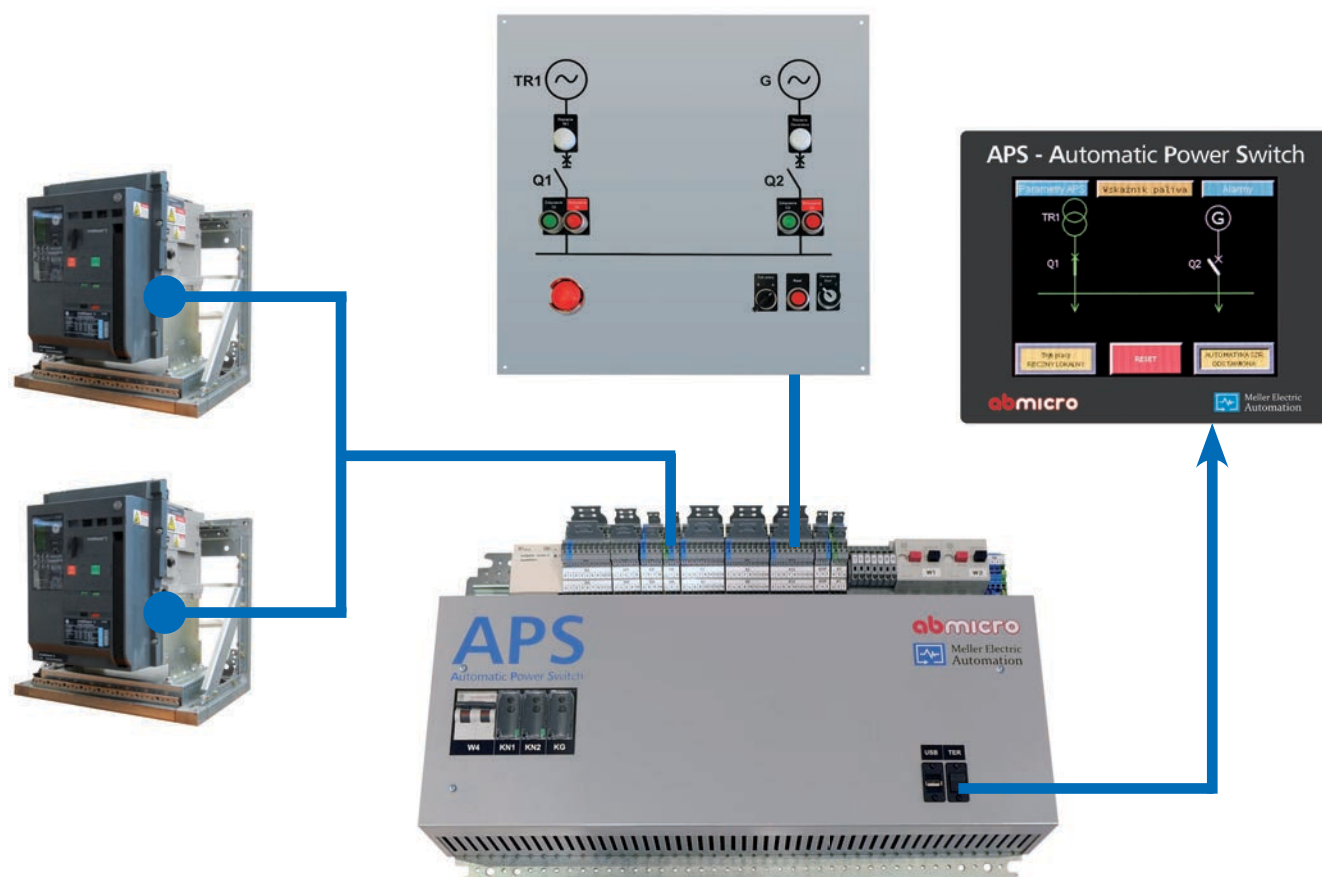
APS RETROFIT APU and DS for APENY circuit breakers

To extend the life of switchboards, GE offers a unique solution to replace the old type air circuit breaker APU or DS with a modern one that meets all modern requirements, i.e. an EntelliGuard circuit breaker. Our APS RETROFIT modernization set will ensure a reliable and cost-decreasing solution, allowing many years of work with a minimum number of shutdowns

AB-MICRO company has prepared APS RETROFIT automation sets that contains the following:

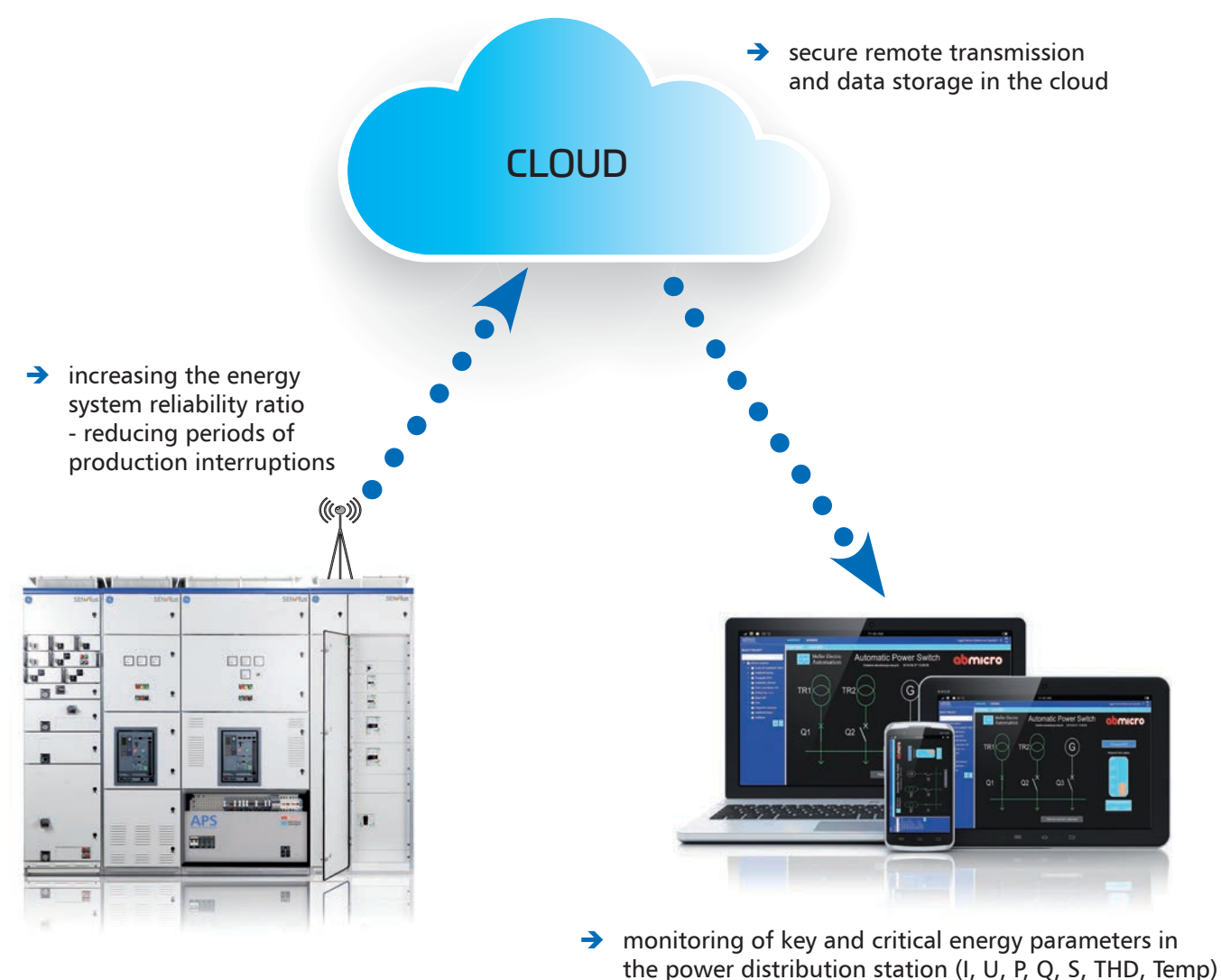
- EntelliGuard circuit breakers in the RETROFIT version
- Automation board equipped with plug connectors
- Assembled synoptic board equipped with wires with plug connectors for APS
- Operator terminal as an option to be installed or loaned for APS parameterization

Such a set enables fast and efficient assembly of automation, without wasting valuable time necessary for labor-intensive works of replacing power apparatus during modernization of the switchgear. In facilities where even short-term power outages are a huge difficulty disorganizing the functioning and work of an enterprise, the time to complete modernization is crucial. There are cases when modernization is possible only once a year during few hours. A carefully thoughtful modernization plan, the use of proven solutions and components allowing the efficient, quick assembly and launching give the chance of final success. The modular design of APS gives the opportunity to choose the equipment and available functionalities needed by the user. This allows to optimize the equipment and price of the proposed solution to the customer expectations.



Monitoring and access to the basic and critical data of the energy system

- the information provided allows for making decisions and advance actions necessary to prevent failures, prevent energy system collapses and possible modernizations that lead to savings and reduce the costs of operating the facility's power supply system



Combination of the APS benefits and processing algorithms as well as the secure data transfer technologies

- Higher security level
- SMS notification program in the form of short and important information about the control system status as well as the power supply system of the facility
- Using of the processing prediction algorithm and presentation of the data so to assess the power supply quality in a simple and transparent way as well as the appropriate operation of the power supply system of the monitored object