

A5 Switch cabinet components

The comprehensive range of accessories for automation technology from Saia Burgess Controls (SBC) ensures a reliable operation of the systems. Modules such as S-Bus RIO modules, isolating amplifiers, coupler modules and relays are available in addition to power supplies and Ethernet switches.



<p>5.1 Power units for installation in control cabinets</p> <p>Different types of 24 VDC power supplies with diverse output power</p>	Page 139
<p>5.2 Power supplies for installation in electric distributor boxes</p> <p>24 VDC power supplies for installation in electrical sub-distribution</p>	142
<p>5.3 Industrial VPN Routers</p> <p>LAN and 3G/HSPA industrial router for DIN rail mounting</p>	144
<p>5.4 Industrial Ethernet switches</p> <p>Industry-quality compact switches for DIN rail mounting with 5 or 8 ports</p>	146
<p>5.5 RS-485 bus termination box PCD7.T16x</p> <p>Termination box for the termination of RS-485 networks for DIN rail mounting with a 24 V or 230 V power supply</p>	147
<p>5.7 Interface modules with local override</p> <p>Coupler modules to control drives, valves or flap systems</p>	149
<p>5.8 I/O module integration into the switch cabinet</p> <p>Pre-assembled system cables and terminal adapter modules support the fast integration of the Saia PCD I/O modules into the switch cabinet.</p>	150

5.1 Power units for installation in control cabinets

SBC power units with 24 VDC output provide an ideal power supply for automation solutions owing to their high level of resistance to interference. They can also be used to operate high-output loads, as they can be heavily overloaded for short periods. The full extent of their flexibility is demonstrated by the option to connect multiple devices in parallel to increase the maximum output current or to connect them in series to achieve different voltage levels.

Power unit overview

SBC Power Flex single-phase 110/230 VAC

- ▶ Q.PS-AD2-2402F (up to 3 A)
- ▶ Q.PS-AD2-2405F (up to 7.5 A)
- ▶ Q.PS-AD2-2410F (up to 14 A)

Uninterruptible power unit single-phase 110/230 VAC with intelligent battery charger

- ▶ Q.PS-ADB-2405-1 (5 A)

SBC single-phase 24 VAC/40 VDC

- ▶ Q.PS-AD1-2403 (3 A)



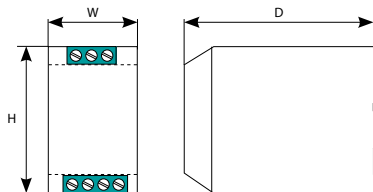
From left to right: Q.PS-ADB, Q.PS-AD2, Q.PS-AD1

System properties in general

- ▶ Short-circuit protection
- ▶ Overload protection
- ▶ IP 20 housing for mounting on DIN rail

Properties of Flex types 24xxF

- ▶ Power boost: +40% additional output current up to 60 °C for at least 3 minutes
- ▶ With AD2-2405F and 2410F, a range of short-circuit modes available
- ▶ “Power good” relay for status display
- ▶ With 2410F, simple parallel connection (via jumper) to increase max. output current
- ▶ Output voltage up to 150 VDC possible in serial mode
- ▶ Extremely compact



Dimensions	Q.PS-AD2-2402F	Q.PS-AD2-2405F	Q.PS-AD2-2410F	Q.PS-ADB-2405-1	Q.PS-AD1-2403
Width (W)	50 mm	55 mm	72 mm	65 mm	50 mm
Height (H)	120 mm	110 mm	115 mm	115 mm	95 mm
Depth (D)	50 mm	105 mm	135 mm	135 mm	61 mm
Weight	0.3 kg	0.6 kg	0.6 kg	0.6 kg	0.2 kg

Properties of the uninterruptible power unit

- ▶ 3-stage automatic charging curve to compensate the self-discharge of the battery
- ▶ Automatic real-time diagnostics of the battery status and test function for the battery service life
- ▶ Any battery fault can be easily identified via blinking codes of the diagnostics LED
- ▶ Option of status and battery fault reporting in the control system via 2 potential-free contacts
- ▶ Adjustable charging current 1...5 A

Standards and certifications

- ▶ In accordance with
 - CE
 - cULus Listed 508 Industrial Control Equipment

Electrical safety:

For the assembly devices in accordance with IEC/EN 60950 (VDE 0805) and EN 50178 (VDE0160). The unit must be installed in accordance with IEC/EN 60950.

EMC Generic

Immunity in accordance with EN 61000-6-2
Noise emission in accordance with EN 61000-6-4

Technical Data

Input data	Q.PS-AD2-2402F	Q.PS-AD2-2405F	Q.PS-AD2-2410F
Input voltage	115...230 VAC		
Permitted voltage range:	90...264 VAC	90...135 / 180...264 VAC	
Inrush current (at V_n and I_n)	$\leq 7 \text{ A} \leq 5 \text{ ms}$	$\leq 11 \text{ A} \leq 5 \text{ ms}$	$\leq 16 \text{ A} \leq 5 \text{ ms}$
Frequency range	47...63 Hz ($\pm 6\%$)		
Input current (for operating voltage 110 / 230 VAC)	1.0 / 0.7 A	2.8 / 1.0 A	3.3 / 2.2 A
Internal input fuse	4 A		6.3 A
External preliminary fuse recommended	Fast-acting 6 A	Fast-acting 10 A	Fast-acting 14 A

Output data	Q.PS-AD2-2402F	Q.PS-AD2-2405F	Q.PS-AD2-2410F
Output voltage (V_n) / nominal current (I_n)	24 VDC $\pm 3\%$ / 2.5 A	24 VDC $\pm 3\%$ / 5 A	24 VDC $\pm 3\%$ / 10 A
Adjustment range (V_{adj})	22...27 VDC		
Switch-on delay	2 s (max.)	1 s (max.)	
Startup with capacitive load	$\leq 50,000 \mu\text{F}$		
Continuous running at $\leq 40^\circ\text{C}$	3 A (230 VAC)/2 A (115 VAC)	7.5 A	14 A
Continuous running at $\leq 50^\circ\text{C}$	2.5 A (230 VAC)/1.5 A (115 VAC)	6.0 A	12 A
Continuous running at $\leq 60^\circ\text{C}$	---	5.0 A	10 A
Maximum continuous current	---	---	---
Reserve out current (within 3 minutes at $\leq 60^\circ\text{C}$)	3.5 A	7.5 A	14 A
Short-circuit current (I_{sc})	7 A	16 A	30 A
Residual ripple	$\leq 80 \text{ mVpp}$		
Efficiency (at 50% I_n)	$\geq 88\%$	$\geq 91\%$	
Short-circuit protection	Yes	Yes + 3 modes	
Overload protection	Yes		
Overvoltage output protection	Yes (max. 35 VDC)		
Parallel connection	Yes	Yes – simple	

Signal output (floating switch contacts)

Switching capacity	---	1 A / 30 VDC
Voltage drop > 10%	---	Yes

Climate data

Ambient temperature (operation)	-25...+70°C (load reduction >50°C, 2.5%/°C)	-25...+70°C (load reduction >60°C, 2.5%/°C)
Ambient temperature (storage)	-40...+85°C	
Permissible humidity	95% at +25°C; no moisture condensation permitted	

Overload protection

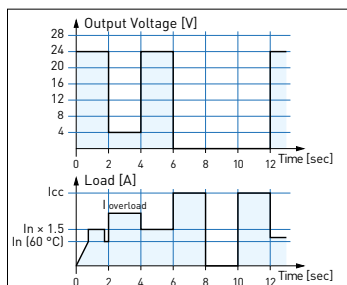
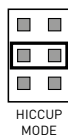
Mode

Jumper

Characteristics

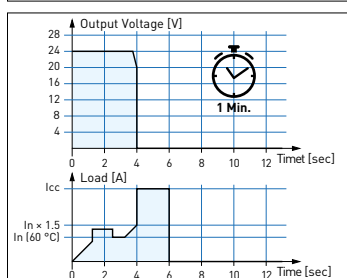
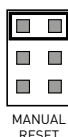
Hiccup mode

Automatic restart (default setting)
Attempts to switch on the output voltage again every 2 seconds.



Manual reset mode

For a restart, it is necessary to switch off the input voltage for approx. 1 minute.



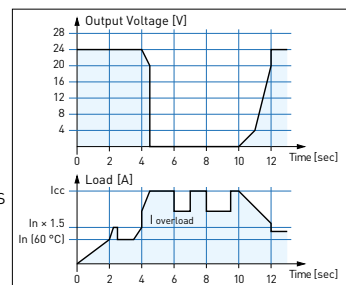
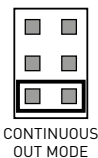
Mode

Jumper

Characteristics

Continuous out mode

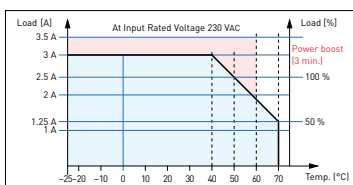
The output current remains at a high value and the output voltage is almost 0 volts.



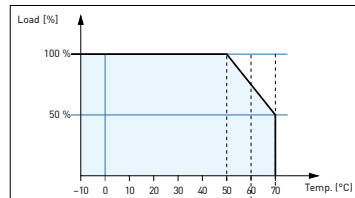
Q.PS-AD1-2403		Q.PS-ADB-2405-1	
24 VAC / 40 VDC		Battery type	
24...32 VAC / 33...45 VDC		115...230 VAC	
---		93...264 VAC	
47...63 Hz (±6%)		≤ 14 A ≤ 5 ms	
---		47...63 Hz (±6%)	
---		1.5 / 0.9 A	
---		4 A	
Fast-acting 10 A		Fast-acting 6 A	
24 VDC ± 2% / 3 A		24 VDC / 5 A	
---		---	
≤ 100 ms		2.5 s (max.)	
≤ 30,000 µF / 1.5 A		≤ 30,000 µF	
---		---	
3 A		---	
---		---	
1.05 × I _n ± 7%		1.1 × I _n ± 5%	
---		---	
---		---	
≤ 60 mVpp		≤ 60 mVpp	
≥ 91%		≥ 81%	
Yes		Yes	
Yes		Yes	
---		Yes	
---		---	
---		1 A / 30 VDC	
---		---	
-0...+50 °C		-25...+70 °C (load reduction >50 °C, 2.5%/°C)	
-25...+85 °C		-40...+85 °C	
95% at +25 °C; no moisture condensation permitted			

Output characteristics

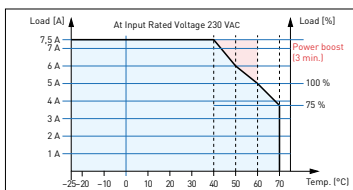
Output derating curve
Q.PS-AD2-2402F



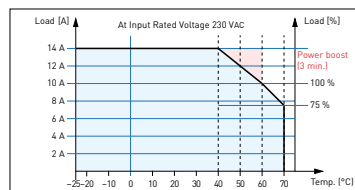
Output derating curve
Q.PS-ADB-2405-1



Output derating curve
Q.PS-AD2-2405F



Output derating curve
Q.PS-AD2-2410F



Battery output (battery type 3 ... 50 Ah)

Boost charge (25 °C) (at I _n)	28.8 VDC
Trickle charge (25 °C) (at I _n)	27.5 VDC
Output 2: Battery charging current max. I _{Batt}	5 A ± 5%
Setting range of charging current	20...100% of I _n
Recovery charge after deep discharge	Yes
Configuration jumper: Battery type	Yes
Reverse polarity protection	Yes
Monitoring of the sulfation of the battery cells	Yes
Detection of an element in short-circuit	Yes

Load output

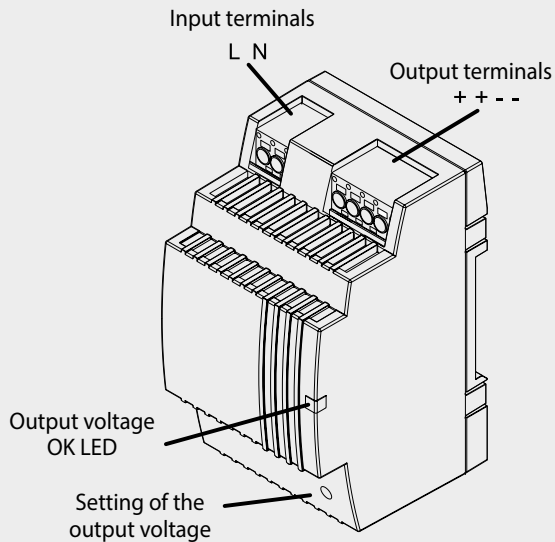
Output voltage (at I _n)	22...28.8 VDC
Max. nominal current I _n = I _{load} + I _{batt} (120 W)	1.1 × 5 A ± 5%
Output 1: Load current (main) I _{load}	15 A max.
Output 1: Load current (backup) I _{load}	10 A max.

Signal output (floating switch contacts)

Switching capacity	1 A / 30 VDC
Main or backup power unit	Yes
Defective battery/low battery	Yes

5.2 Power units for installation in electrical distributor boxes

The compact Q.PS-PEL-240x power units with 24 VDC output voltage can be installed in a very restricted space and therefore the installation in cost-effective electrical distributor boxes in accordance with DIN 43880 is possible. They are therefore ideally suited for combining with the E-Line family. Modern push-in terminals enable efficient and fast wiring without the use of tools.



Power unit overview

Single phase 110/230 VAC

- ▶ Q.PS-PEL-2401: 24 VDC / up to 1.3 A
- ▶ Q.PS-PEL-2403: 24 VDC / up to 4.0 A

Standards and certifications

Compliant certifications

- ▶ CE
- ▶ DNV GL (shipping approval)
- ▶ UL (cURus, cULus)
- ▶ EAC

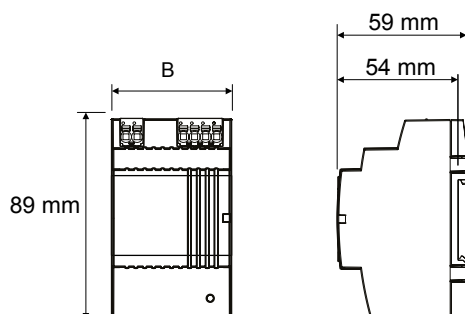
Electrical safety

- ▶ EN61558
- ▶ EN60950 (SELV)

EMC

- ▶ EN61204-3
- ▶ Immunity pursuant to EN61000-6-2 (for the industrial sector)
- ▶ Emitted interference in accordance with EN61000-6-4 (for the domestic sector)

Dimensions



Model	Q.PS-PEL-2401	Q.PS-PEL-2403
Width (W)	54 mm	90 mm

System properties

- ▶ Short-circuit protection and constant overload limiter
- ▶ Protection class II (in closed switch cabinet) → dual isolation
- ▶ Power failure bypass up to 100 ms
- ▶ LED for output voltage OK display
- ▶ Stabilised and adjustable output voltage for the conductor resistance compensation
- ▶ Parallel operation possible to increase max. output current
- ▶ IP20 housing for mounting on DIN rail

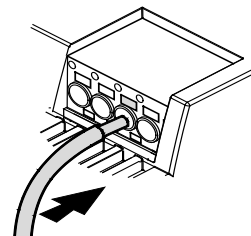
Mounting in the sub-distributor

The design of the Q.PS-PEL2-40x power units complies with the required standard dimensions according to DIN 43880. The power units can therefore be easily integrated in electrical distribution boxes and are ideally suited to supply the components of the E-Line family with voltage



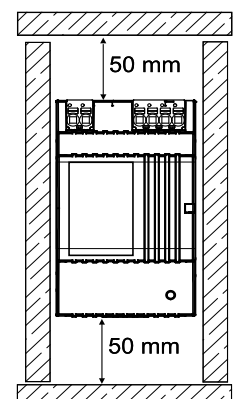
Terminal technology

Push-in terminals for efficient and fast wiring without tools for single wire conductors with a cross section of up to 2.5 mm² or fine wire ferrules up to 1.5 mm². However fine wire conductors up to 2.5 mm² can also be connected directly by simply applying pressure (screwdriver).



Installation information

Distance to adjacent parts:
 Right/left: no minimum distance required
 Top/bottom: min. 50 mm



Technical data

Input data	Q.PS-PEL-2401	Q.PS-PEL-2403
Input voltage	100...240 VAC	
Permitted input voltage range	85...264 VAC	
Nominal frequency range	44...66 Hz	
Nominal input current for nominal load (110 / 230 VAC)	0.7 / 0.5 A	1.6 / 0.9 A
Internal input fuse	2 AT	4 AT
Recommended external pre-fuse	6 A, 10 A, 16 A, characteristics B, C	
Power failure bypass for nominal load (110 / 230 VAC)	10 / 80 ms	15 / 100 ms

Output data

Output voltage (V_N)	24 VDC \pm 2%	
Output voltage range (V_{ADJ})	22.8...26.4 VDC	
Output current (I_N) at $\leq 45^\circ\text{C}$	1.3 A	4 A
Output current (I_N) at $\leq 55^\circ\text{C}$	0.9 A	2.8 A
Current load rating for any installation system	max. 0.9 A	max. 2.4 A
Efficiency	typical 82%	typical 88%
Residual ripple (for nominal load)	≤ 100 mVpp	
Overload behaviour	Constant current (U/I characteristic curve)	
Short-circuit protection	Yes	
Overvoltage output protection	Yes (max. 30 VDC)	
Parallel connection	Yes	

Status

Operating indicator	LED green
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Environment

Ambient temperature (operation)	-25°C to $+55^\circ\text{C}$ (load reduction $>45^\circ\text{C}$, 3%/°C)
Storage temperature	-25°C to $+80^\circ\text{C}$
Permitted humidity	30–85% relative humidity, no condensation permitted
Areas of use	Use in areas with contamination level 2

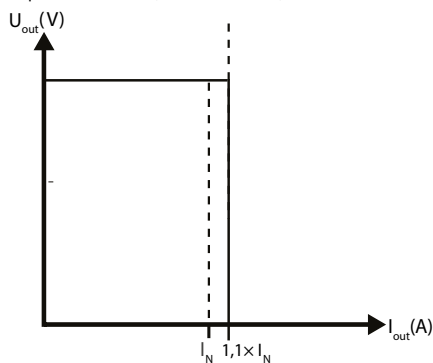
Connection terminals

Connections	Push-in
Input/output terminals	Single wire and fine wire conductors up to max. 2.5 mm ² / conductors with wire ferrules up to max. 1.5 mm ²

Output characteristics

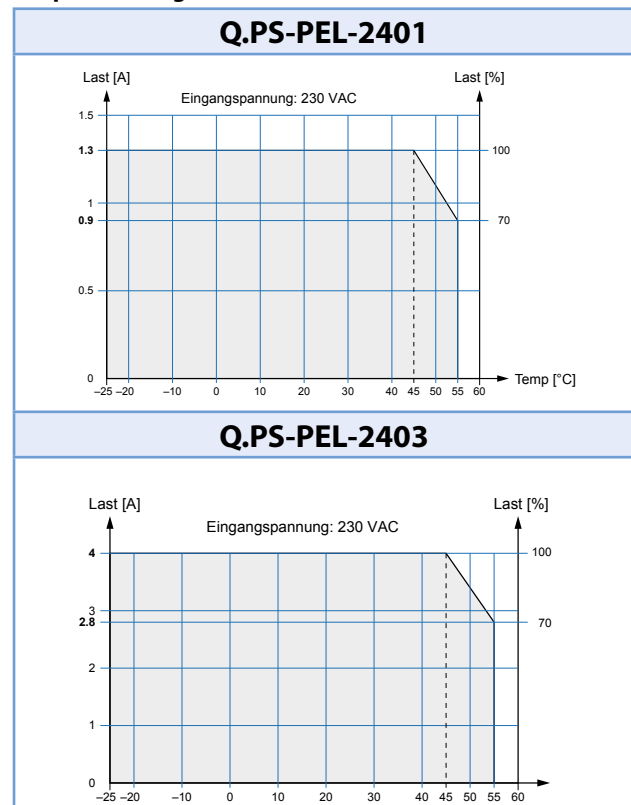
Voltage/current characteristic curve for short-circuit and overload protection

Output Characteristic (U/I Characteristic)



The current overload protection limits the current to a constant value of $1.1 \times$ nominal current

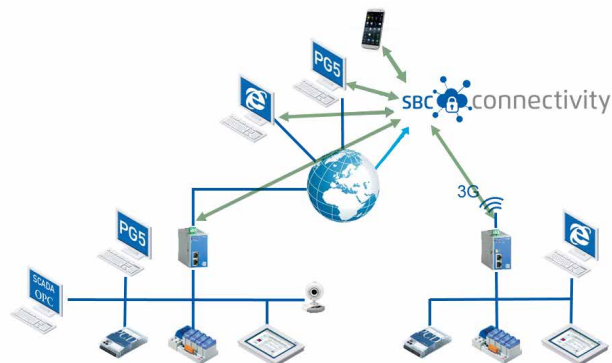
Output derating curve



5.3 Industrial VPN Routers

The EBW industrial routers allows you an easy, reliable and secure connection of different applications located on different sites.

Using the quick start wizard, the EBW routers can be quickly and easily integrated in the "SBC Connectivity service" VPN network. These industrial routers enable professional IP routing and provide highest-possible IT security.



5.3.1 Industrial 3G/HSPA router for VPN connection

The industrial high speed router EBW-H100 combines a modem and a router in one device. It connects to the internet over mobile networks (3G/HSPA, GPRS/EDGE).

The dial-in and dial-out functionality enables remote maintenance and operation of devices in an Ethernet network. A firewall and integrated VPNs (openVPN, IPsec) care about data security.



Typical applications

- ▶ Access to control network with PLC, HMI, data logger
- ▶ Modem substitute for devices with Ethernet interface
- ▶ Remote desktop
- ▶ Video monitoring
- ▶ Displays

Features

- ▶ Broadband 3G/HSPA
- ▶ Dial-in and dial-out router
- ▶ VPN security
- ▶ Two local Ethernet ports
- ▶ Prepared for INSYS Connectivity Service

Technical data EBW-H100

Mobile Communication

Networks	2G: 900/1 800 MHz; CSD, GPRS/EDGE Class 12 3G: 850/800, 900, 1 900, 2 100 MHz; UMTS, HSDPA, HSUPA
Antenna	SMA connection
SIM	1 slot for Mini-SIM card

Router

Funktion	Dial-In, dial-out, callback, connection management, DHCP server and client, full NAT (port forwarding, netmapping), DNS relay, dynDNS support, SNMP, NTP client and server, buffered real-time clock
Security	OpenVPN (client and server), IPsec, PPTP, MAC firewall, 10 user for dial-in, authentication over PAP/CHAP/MS-CHAP/MS-CHAP 2, dial filter for dial-out, linkloss detection, failed login detection, GRE
Redundancy	2 dial-out targets, 2 OpenVPN server targets

LAN

Ports	2×RJ45
Operating mode	10 / 100 MBit/s for full and half duplex operation
Function	Automatic detection of patch cable / cross-over cable, Automatic speed adjustment; MDI/MDI-X

Messages

	Hardware watchdog, system messages via e-mail, SNMP traps, SNMP V1 /V2c/V3
--	--

Additional features

	Update of firmware and configuration (local and remote), daily auto update
--	--

Supply

Connections	10 ... 48 V DC (±20%)
Input/output terminals	Approx. 2 W (logged in), max. 5 W (during communication)

Physical features

Dimensions (L×W×H)	110×45×70 mm
Operating temperature	-30 ... +70 °C -30 ... +85 °C under limited conditions (refer to www.insys-icom.com/restricted)
Humidity	0 ... 95% (non-condensing)

5.3.2 Industrial LAN router for VPN connection

The industrial high-speed router EBW-E100 allows secure connections between local and remote networks.

EBW-E100 decouples manufacturing cells with remote access from the surrounding company IT for example. Also many subnetworks with identical local IP addresses can be distinguished and addressed targeted.

The firewall and VPN via OpenVPN and IPsec provide data security.



Typical applications

- ▶ Manufacturing cell decoupling
- ▶ Secure remote maintenance in customer network
- ▶ Access to a control network from PLC, HMI, data logger
- ▶ Remote desktop
- ▶ Video monitoring
- ▶ Displays

Features

- ▶ LAN-to-LAN industrial router (1× LAN int., 1× LAN ext.)
- ▶ Professional IP routing
- ▶ Comprehensive security: Firewall, VPN, SNMP
- ▶ Easy consistent concept of operation
- ▶ Quick start for SBC Connectivity Service (VPN service)

Technical data EBW-E100

Router

Function	Connection management, DHCP server and client, full NAT (port forwarding, netmapping), DNS relay, dynDNS support, PPPoE client for ADSL, SNMP, NTP client and server, buffered real-time clock
Security	OpenVPN (client and server), IPsec, PPTP, MAC firewall, linkloss detection, failed login detection, GRE
Redundancy	2 OpenVPN server targets

LAN

Ports	2×RJ45
Operating mode	10/ 100 MBit/s for full and half duplex operation
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Physical features

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Operating temperature	-30 ... +70 °C -30 ... +85 °C under limited conditions (refer to www.insys-icom.com/restricted)
Humidity	0 ... 95% (non-condensing)

Order details

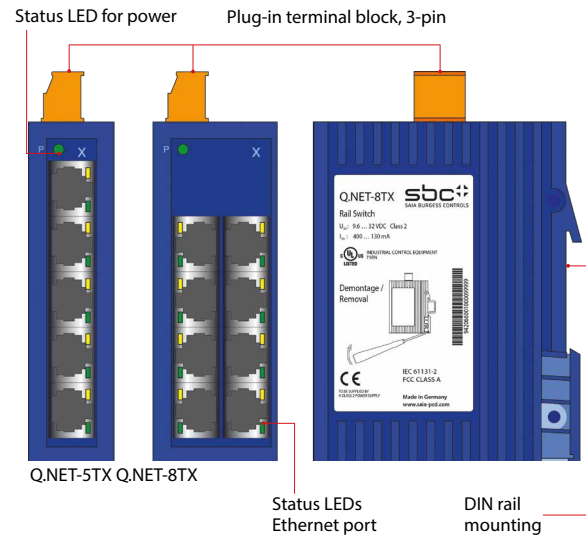
Q.NET-EBW-E100	Industrial LAN router for VPN connection
Q.NET-EBW-H100	Industrial 3G/HSPA router for VPN connection
Q.NET-CON	Annual license for the "SBC Connectivity Service" portal
PCD7.K840	GSM/UMTS (700/800/850/900/1'700/1'800/1'900/2'100/2'600 MHz) antenna with magnetic foot, 3 m cable and SMA (m) connector

5.4 Industrial Ethernet switches

This compact, unmanaged switch operates based on the plug-and-work principle. The mounted switch is equal in height to Saia PCD3 systems, which saves space when it is snapped onto the DIN rail. The PCD controller is connected with the patch cable provided. With its robust construction, this switch is suitable for use in harsh industrial environments and in infrastructure automation.

System properties

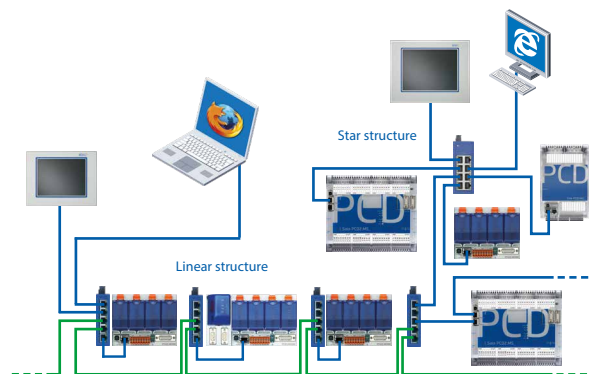
- ▶ DIN rail mounting and 24 VDC supply for flawless operation in infrastructure automation and in harsh industrial environments
- ▶ Fast network diagnosis, due to integral LEDs at TCP ports
- ▶ Entry level industrial Ethernet rail switch, with store-and-forward switching mode
- ▶ Allows construction of Ethernet networks in accordance with IEEE 802.3 with copper technology
- ▶ The device has five or eight 10/100 Mbit/s twisted pair ports (RJ45 connections)
- ▶ Up to five or eight end devices or additional TCP segments can be connected to the TCP ports using twisted pair
- ▶ Extremely light, compact construction with IP 30 protection level
- ▶ Simple commissioning with 'plug-and-work' via auto-negotiation, auto-polarity and auto-crossing



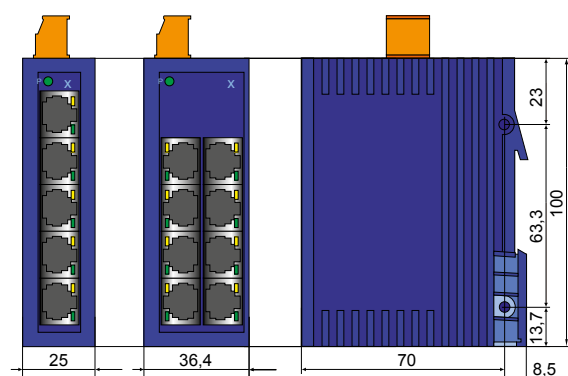
Technical data Q.NET-5TX and Q.NET-8TX

Operation	
Port type and number	Ethernet 10/100 MBit/s, 5× RJ45 (Q.NET-5TX) or 8× RJ45 (Q.NET-8TX)
Network line lengths	Twisted pair (TP), 0...100 m
Network cascade depth	Linear/star structure – any depth
Operating voltage	9.6 VDC...32.0 VDC
Current draw at 24 VDC	max. 100 mA
Displays/diagnostics	1× green LED; power 5× / 8× yellow LED; data rate 5× / 8× green LED; data, link status
Environmental conditions	
Operating temperature	0°C ... +60°C
Storage temperature	-40°C ... +70°C
Humidity	up to 95% (non-condensing)
Standards/approvals	
EMC noise immunity:	EN 61000-4
EMC noise emission:	EN 55022 Class A, FCC CFR47 Part 15 Class A
Safety for Industrial Control Equipment	cUL508, CSA22.2 No. 142, E 175531
Mechanical stability	IEC 60068-2 (shock, vibration)
Protection type	IP30
Order details	
Q.NET-5TX	5-port rail switch, terminal block, patch cable and operating instructions
Q.NET-8TX	8-port rail switch, terminal block, patch cable and operating instructions

Connection options



Dimensions

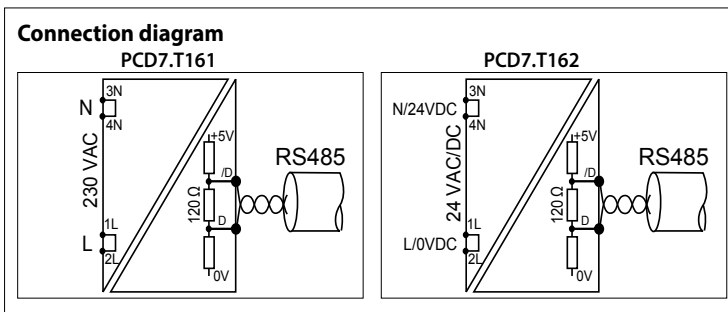


5.5 RS-485 bus termination box PCD7.T16x

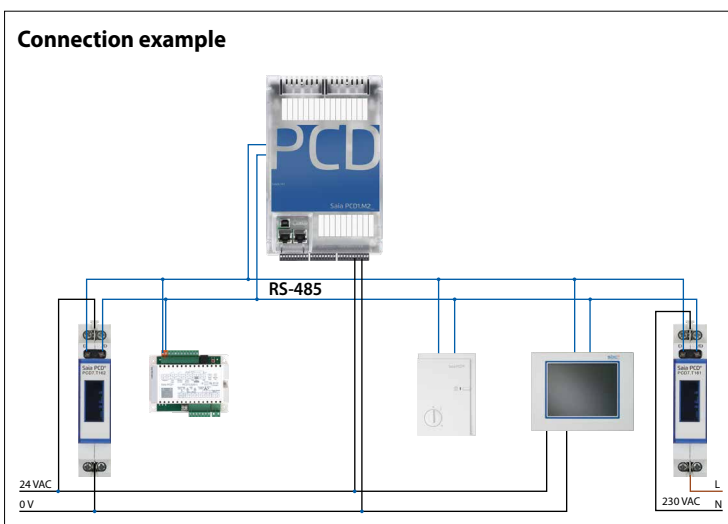
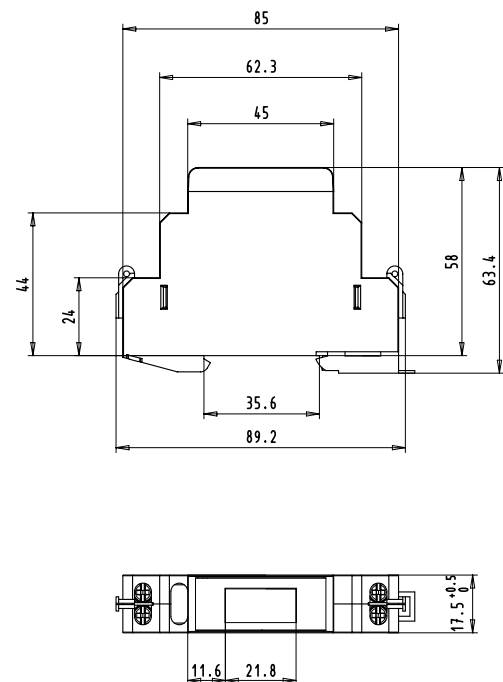
The PCD7.T16x termination boxes are used for RS-485 network termination. Each RS-485 network segment must be terminated at the end of the network. The PCD7.T16x termination boxes ensure that the RS-485 signals are set at the correct signal level and the integrated 120 Ohm resistor prevents signal reflection in the RS-485 cable. With their robust and compact construction and electrically isolated power supply with either 230 VAC or 24 VAC/DC, the PCD7.T16x termination boxes are suitable for use in harsh industrial environments and in infrastructure automation. An LED indicates the presence of the supply voltage of the PCD7.T16x termination box.

System properties

- ▶ 35 mm DIN rail mounting
- ▶ 17.5 mm wide housing
- ▶ 230 VAC +15% /-20% for PCD7.T161
- ▶ 24 VAC / DC -15% /+15% for PCD7.T162
- ▶ Current consumption of 0.4 W
- ▶ Electrically isolated power supply
- ▶ Fixed-line terminator resistance of 120 Ω
- ▶ LED operating indicator



Dimensions



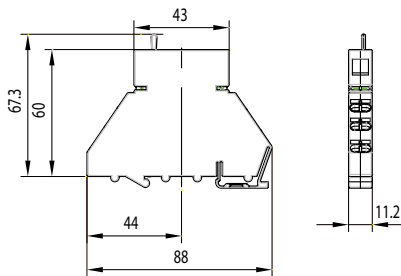
	PCD7.T161	PCD7.T162	Comments
Power supply	230 VAC	24 VAC / DC	
Housing	17.5 × 85 × 64 mm	17.5 × 85 × 64 mm	PCD7.T161 and PCD7.T162 comply with the standards for switch cabinets
Terminating resistor	Fixed 120 Ω	Fixed 120 Ω	
Display	LED for 230 VAC	LED for 24 V	

Lead sealing cap as an accessory, see section 4.2.6 (ALD1)

5.6 Interface modules with local override to control drives, valves or flap systems

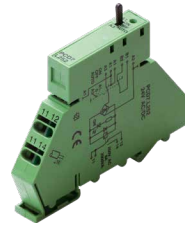
Dimensions

PCD7.L252/452



PCD7.L252:

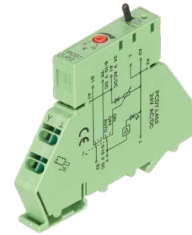
Coupler modules with manual operating level Auto/OFF/ON



- ▶ 1 changeover contact
- ▶ Local override operation
- ▶ Auto acknowledge
- ▶ LED display
- ▶ Test contacts for each terminal
- ▶ Spring terminals (push-in)

PCD7.L452:

Analogue value transmitter for manual correcting variables



- ▶ Potentiometer 0...10 V
- ▶ Local override operation
- ▶ Auto acknowledge
- ▶ LED brightness in proportion to control variable
- ▶ Test contacts for each terminal
- ▶ Spring terminals (push-in)

Single-stage coupler component with local override operation, acknowledgement of switch position and an LED for status indication. Coupler modules are used for safe potential isolation between logic and load. Spring terminals allow for quick and easy wire connection. The supply voltage can be connected across jumpers using additional terminals with no wiring or additional time required.

The analogue data encoder is used as a variable encoder for manual variable specification, e. g. mixing valves, valve positions, temperature values, etc. It has three operating modes: ON, OFF and AUTO. In switch position AUTO, the control variable will be looped unchanged via the YR terminal to the control variable output Y. In switch position ON, the control variable can be set using the potentiometer on the front of the device. The output signal will be available at terminal Y.

Input side	PCD7.L252	PCD7.L452
Supply voltage	24 VDC/VAC, -15%/+10%	24 VDC/VAC, -15%/+20%
Current draw	13 mA, protection wiring with recovery diode	19 mA at 24 VDC 30 mA at 24 VAC
Input current	---	2 mA at 10 VDC (input YR)
Response / release time	10 ms/5 ms	---/---
Input voltage	24 VDC/VAC	0...10 VDC
Operating indicator	Green LED to indicate relay state	Red LED (brightness in proportion to control variable)
Output side		
Output contact	1 changeover	---
Turn-on voltage	max. 250 VDC/VAC	---
On/off switching current	max. 8 A	---/---
Output voltage	---	0...10 VDC, 10 mA, output Y in switch position Auto/ON
Continuous current	8 A	---
Breaking capacity (ohmic load)	24 VDC/180 W 50 VDC/65 W 230 VDC/50 W 250 VAC/2000 VA	---
Breaking capacity min.	24 VDC/20 mA	---
Service life mechanical electrical (at maximum switching load)	2 × 10 ⁷ switch cycles 1 × 10 ⁵ hystereses	---
Switching frequency	MAX: 300 hystereses / h at max. current	---

Accessories

PCD7.L291	Jumper for connection of the supply voltage of up to 10 PCD7.L252 and PCD7.L452 modules
PCD7.L490	Labelling plate for PCD7.L452 (in packs of 10)
PCD7.L290	Labelling plate for PCD7.L252 (in packs of 10)



PCD7.L291



PCD7.L490 / PCD7.L290

5.7 I/O module integration into switch cabinet

Pre-assembled system cables and terminal adapter modules support the fast integration of the integration of the Saia PCD I/O modules into the switch cabinet. I/O modules with ribbon connections, in particular, can be installed quickly and easily in the switch cabinet. The modules with terminals can also be connected to the adapters using traditional stranded wires. The adapters either are available for galvanic separation of the outputs with relays or as simple I/O adapters with voltage distribution.

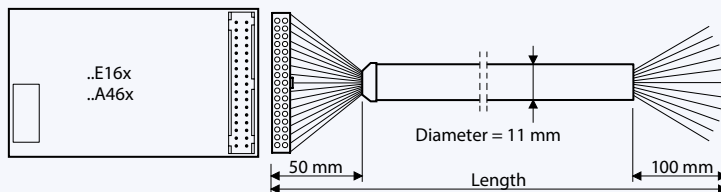
System properties

- ▶ Available as I/O terminal adapter or relay interface
- ▶ Relay interface with manual mode
- ▶ Compatible with Saia PCD2 and PCD3 systems
- ▶ For connection with system cable or stranded wire
- ▶ For DIN rail mounting



Pluggable ribbon cables with connector at the Saia PCD end

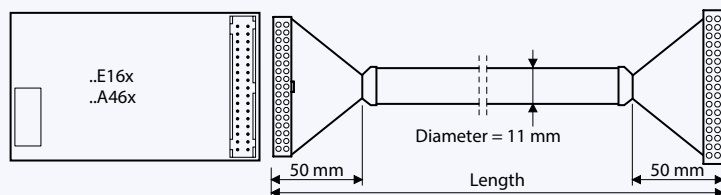
Cable for the digital modules with 16 inputs/outputs



PCD2.K221/K223 cable

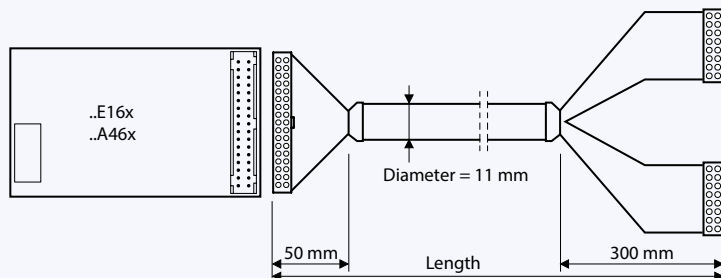
Sheathed, round cable with 32 strands of 0.25 mm² (AWG 24), 34-pin ribbon connector at the PCD end
Free, unshielded 100 mm ends at the process end
Stranded wires, colour-coded
Cable length PCD2.K221 = 1.5 m
PCD2.K223 = 3.0 m

Terminal adapter for digital inputs/outputs



PCD2.K231/K232 cable

Sheathed, round ribbon cable with 34 strands of 0.09 mm², 34-pin ribbon connector at both ends
Cable length PCD2.K231 = 1.0 m
PCD2.K232 = 2.0 m



PCD2.K241/K242 cable

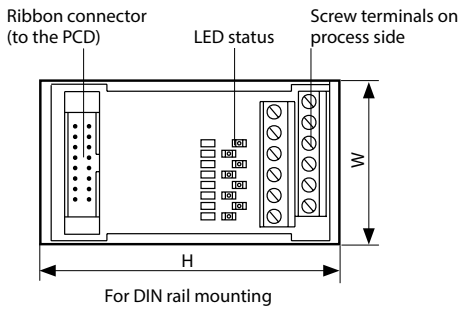
Sheathed, round ribbon cable with 34 strands of 0.09 mm², 34-pin ribbon connector at the PCD end
Process end divided into 2 branches, each 300 mm in length, leading to 16-pin ribbon connectors
Cable length PCD2.K241 = 1.0 m
PCD2.K242 = 2.0 m

To facilitate and speed up the installation of controllers, various adapters are available that can be connected direct to the Saia PCD I/O modules via system cables. Apart from terminal adapters, there are also relay interfaces available which enable simple galvanic separation. The relay interfaces can be connected with ribbon cables or with stranded wires.



Terminator adapter for I/O modules with ribbon connection

Mechanical design



Terminal adapter for 16 inputs/outputs

Terminal adapter PCD2.K520/K521
 34-pin ribbon connector at the PCD end
 Process end 2x10 screw terminals 0.5...1.5 mm²
 PCD2.K520 without LEDs
 PCD2.K521 with LEDs (source operation)

Dimensions: 65 x 82 x 60 mm (W x H x D)

Terminal adapter for 16 inputs/outputs

Terminal adapter PCD2.K525
 34-pin ribbon connector at the PCD end
 Process end 3 x 16
 Screw terminals 0.5...1.5 mm² with LEDs (source operation)

Dimensions: 94 x 82 x 72 mm (W x H x D)

Adapter relay interface

Relay interface PCD2.K551
 for 8 PCD transistor outputs with 24 screw terminals and LED
 Switching capacity of the changeover contacts
 10 A/250 VAC or 10 A/24 VDC (ohmic), 24 VDC spool
 16-pin ribbon connector or screw terminals at the PCD end
 24 screw terminals 0.5...1.5 mm² at the process end

Mechanical data
 Diameter of the screw terminals: M 2.6 mm
 Starting torque: 0.4 Nm

Dimensions: 128 x 82 x 55 mm (W x H x D)

Adapter relay interface with manual operation

Relay interface PCD2.K552
 for 8 PCD transistor outputs with 24 screw terminals, LED and manual operation mode (switch on-off-auto) and 1 output as feedback for the manual mode
 Switching capacity of the changeover contacts 10 A/250 VAC or 10 A/24 VDC (ohmic), 24 VDC spool
 16-pin ribbon connector or screw terminals at the PCD end
 24 screw terminals 0.5...1.5 mm² at the process end

Mechanical data
 Diameter of the screw terminals: M 2.6 mm
 Starting torque: 0.4 Nm

Dimensions: 128 x 82 x 44 mm (W x H x D)

