DATA SHEET

برای پروژه DCS سیستم کنترل نگهداشت و افزایش تولید میدان نفتی بینک

شرکت پارس کنترل پیشرو

DCS :SIEMENS

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Rev.	**Date**	**POI**	**Prepared by**	**Checked by**	**Approved by**

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Data sheet 6EP1336-2BA10

SITOP PSU100S/1AC/24VDC/20A

SITOP PSU100S 20 A stabilized power supply input: 120/230 V AC output: 24 V DC/20 A

input	
type of the power supply network	1-phase AC
supply voltage at AC	Automatic range selection
supply voltage	120 V/230 V
input voltage 1 at AC	85 ... 132 V
input voltage 2 at AC	176 ... 264 V
wide range input	No
overvoltage overload capability	2.3 × Vin rated, 1.3 ms
buffering time for rated value of the output current in the event of power failure minimum	20 ms
operating condition of the mains buffering	at Vin = 120/230 V
line frequency	50/60 Hz
line frequency	47 ... 63 Hz
input current	
● at rated input voltage 120 V	7.5 A
● at rated input voltage 230 V	3.5 A
current limitation of inrush current at 25 °C maximum	11 A
I2t value maximum	10 A²·s
fuse protection type	T 10 A (not accessible)
fuse protection type in the feeder	Recommended miniature circuit breaker: from 10 A characteristic C or circuit-breaker 3RV2411-1JA10 (120 V) or 3RV2411-1FA10 (230 V)
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
output voltage	
● at output 1 at DC rated value	24 V
output voltage adjustable	Yes; via potentiometer
adjustable output voltage	24 ... 28 V; max. 480 W
relative overall tolerance of the voltage	3 %
relative control precision of the output voltage	
● on slow fluctuation of input voltage	0.5 %
● on slow fluctuation of ohm loading	1 %
residual ripple	
● maximum	150 mV
voltage peak	
● maximum	240 mV
display version for normal operation	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 50 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	No overshoot of Vout (soft start)
response delay maximum	1.5 s

voltage increase time of the output voltage	
● typical	50 ms
● maximum	500 ms
output current	
● rated value	20 A
● rated range	0 ... 20 A; 24 A up to +45°C; +60 ... +70 °C: Derating 5%/K
supplied active power typical	480 W
short-term overload current	
● on short-circuiting during the start-up typical	35 A
● at short-circuit during operation typical	35 A
duration of overloading capability for excess current	
● on short-circuiting during the start-up	100 ms
● at short-circuit during operation	100 ms
bridging of equipment	Yes
number of parallel-switched equipment resources for increasing the power	2
efficiency	
efficiency in percent	90 %
power loss [W]	
● at rated output voltage for rated value of the output current typical	53 W
closed-loop control	
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	1 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	3 %
setting time	
● maximum	10 ms
protection and monitoring	
design of the overvoltage protection	Yes, according to EN 60950-1
property of the output short-circuit proof	Yes
design of short-circuit protection	Electronic shutdown, automatic restart
● typical	21 A
overcurrent overload capability	
● in normal operation	overload capability 150 % Iout rated up to 5 s/min
enduring short circuit current RMS value	
● maximum	7 A
safety	
galvanic isolation between input and output	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
operating resource protection class	Class I
leakage current	
● maximum	3.5 mA
● typical	1 mA
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for mains harmonics limitation	EN 61000-3-2
● for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
● CE marking	Yes
● UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
● CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
● EAC approval	Yes
● NEC Class 2	No
type of certification	
● BIS	Yes; R-41183539
● CB-certificate	Yes
MTBF at 40 °C	1 778 916 h

standards, specifications, approvals hazardous environments	
certificate of suitability	
● IECEx	No
● ATEX	No
● ULhazloc approval	No
● cCSAus, Class 1, Division 2	No
● FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	Yes
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	No
● French marine classification society (BV)	No
● Det Norske Veritas (DNV)	Yes
● Lloyds Register of Shipping (LRS)	No
standards, specifications, approvals Environmental Product Declaration	
Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	1 707.2 kg
● during manufacturing	47.4 kg
● during operation	1 658.2 kg
● after end of life	0.72 kg
ambient conditions	
ambient temperature	
● during operation	0 ... 70 °C; with natural convection
● during transport	-40 ... +85 °C
● during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
● at input	L1, N, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded
● at output	+, -: 2 screw terminals each for 0.2 ... 4 mm²
● for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²
mechanical data	
width × height × depth of the enclosure	115 × 145 × 150 mm
installation width × mounting height	120 mm × 245 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	2.4 kg
accessories	
electrical accessories	Buffer module
mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20
further information internet links	
internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to website: Industrial communication	https://siemens.com/industrial-communication
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications

	Version	Classification
eClass	14	27-04-07-01
eClass	12	27-04-07-01
eClass	9.1	27-04-07-01
eClass	9	27-04-07-01
eClass	8	27-04-90-02
eClass	7.1	27-04-90-02
eClass	6	27-04-90-02
ETIM	9	EC002540
ETIM	8	EC002540
ETIM	7	EC002540
IDEA	4	4130
UNSPSC	15	39-12-10-04

Approvals Certificates

General Product Approval

Manufacturer Declaration

Declaration of Conformity

General Product Approval

BIS CRS

Marine / Shipping

Environment

last modified: 6/26/2024

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Data sheet 6EP1961-3BA21

SITOP PSE202U/Redundancy M./DC24V/40A

SITOP PSE202U redundancy module input/output: 24 V DC/40 A suitable for decoupling two SITOP power supplies with maximal per 20 A output current

input	
type of the power supply network	DC voltage
supply voltage at DC	24 ... 24 V
input voltage at DC	24 ... 28.8 V
output	
voltage curve at output	Controlled, isolated DC voltage
output voltage at DC rated value	24 V
formula for output voltage	Vin - approx. 0.5 V
output voltage	
● at output 1 at DC rated value	24 V
output voltage adjustable	No
display version for normal operation	Green LED for "both Input voltages > switching threshold"; red LED: for "at least one input voltage < switching threshold"
type of signal at output	Isolated relay contact (changeover contacts, rating 8 A/240 V AC, 24 V DC): Signals OK if both input voltages > switching threshold, setting range of threshold 20 ... 25 V
output current	
● rated value	40 A
● rated range	40 A; max. aggregate current 40 A; +60 ... +70 °C: derating 3%/K
efficiency	
efficiency in percent	96.6 %
power loss [W]	
● at rated output voltage for rated value of the output current typical	34 W
● during no-load operation maximum	1.5 W
safety	
galvanic isolation	yes, SELV acc. to EN 60950-1 (relay contact)
operating resource protection class	Class III
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for interference immunity	EN 61000-6-2
standards, specifications, approvals	
certificate of suitability	
● CE marking	Yes
● UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
● CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
● EAC approval	Yes
● NEC Class 2	No
type of certification	
● CB-certificate	No

MTBF at 40 °C	6 471 654 h
standards, specifications, approvals hazardous environments	
certificate of suitability	
● IECEx	No
● ATEX	No
● ULhazloc approval	No
● cCSAus, Class 1, Division 2	No
● FM registration	No
standards, specifications, approvals marine classification	
shipbuilding approval	Yes
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	Yes
● French marine classification society (BV)	No
● Det Norske Veritas (DNV)	Yes
● Lloyds Register of Shipping (LRS)	No
ambient conditions	
ambient temperature	
● during operation	-25 ... +60 °C; with natural convection
● during transport	-40 ... +85 °C
● during storage	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
connection method	
type of electrical connection	screw terminal
● at input	Input, output and ground: 1 screw terminal each for 0.33 ... 10 mm² single-core/finely stranded
● for auxiliary contacts	Relay contact: 3 screw terminals for 0.5 ... 2.5 mm² single-core/finely stranded
mechanical data	
width × height × depth of the enclosure	70 × 125 × 120 mm
installation width × mounting height	70 mm × 225 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	0.5 kg
further information internet links	
internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to website: Industrial communication	https://siemens.com/industrial-communication
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com
additional information	
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)
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CE EG-Konf.

UKCA

UL UL

Marine / Shipping

ABS

Marine / Shipping

DNV DNV

last modified: 6/26/2024

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Data sheet 6ES7153-2AR04-0XA0

	SIMATIC DP, ET 200M Red. Bundle Consisting of: 2x IM 153-2HF (6ES7153-2BA10-0XB0), 1x bus module in/in (6ES7195-7HD10-0XA0)
General information	
Product type designation	IM 153-2 HF
Supply voltage	
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Protocols	
Protocols (Ethernet)	
● TCP/IP	No
Potential separation	
Potential separation exists	Yes
Degree and class of protection	
IP degree of protection	IP20
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm

last modified: 3/12/2024

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Data sheet 6ES7195-1GF30-0XA0

SIMATIC DP, mounting rail for ET 200M, 530 mm long, for holding bus modules for removal and insertion function

Accessories	
belongs to product	ET 200M
Mechanics/material	
Surface design	galvanically isolated
Material	aluminum
Dimensions	
Width	530 mm
Height	122 mm
Weights	
Weight, approx.	1 320 g

last modified: 3/12/2024

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Data sheet 6ES7195-7HB00-0XA0

SIMATIC DP, Bus module for ET 200M for holding two 40 mm wide I/O modules for removal and insertion function

Figure similar

Dimensions	
Width	97 mm; 80 mm when installed
Height	92 mm
Depth	30 mm
Weights	
Weight, approx.	140 g

last modified: 3/12/2024

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Data sheet 6ES7321-1BL00-0AA0

SIMATIC S7-300, Digital input SM 321, Isolated 32 DI, 24 V DC, 1x 40-pole

Supply voltage	
Load voltage L+	
● Rated value (DC)	24 V
● permissible range, lower limit (DC)	20.4 V
● permissible range, upper limit (DC)	28.8 V
Input current	
from backplane bus 5 V DC, max.	15 mA
Power loss	
Power loss, typ.	6.5 W
Digital inputs	
Number of digital inputs	32
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
horizontal installation	
— up to 40 °C, max.	32
— up to 60 °C, max.	16
vertical installation	
— up to 40 °C, max.	32
Input voltage	
● Type of input voltage	DC
● Rated value (DC)	24 V
● for signal "0"	-30 to +5 V
● for signal "1"	13 to 30V
Input current	
● for signal "1", typ.	7 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	No
— at "0" to "1", min.	1.2 ms
— at "0" to "1", max.	4.8 ms
— at "1" to "0", min.	1.2 ms
— at "1" to "0", max.	4.8 ms
Cable length	
● shielded, max.	1 000 m
● unshielded, max.	600 m
Encoder	
Connectable encoders	
● 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
Interrupts/diagnostics/status information	

Alarms	No
Diagnostics function	No
Alarms	
● Diagnostic alarm	No
● Hardware interrupt	No
Diagnostics indication LED	
● Status indicator digital input (green)	Yes
Potential separation	
Potential separation digital inputs	
● between the channels	No
● between the channels, in groups of	16
● between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	500 V DC
connection method	
required front connector	40-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	260 g

last modified: 3/12/2024

SIEMENS

Data sheet 6ES7322-1BL00-0AA0

SIMATIC S7-300, Digital output SM 322, isolated, 32 DO, 24 V DC, 0.5A, 1x 40-pole, Total current 4 A/group (16 A/module)

Supply voltage	
Load voltage L+	
● Rated value (DC)	24 V
● permissible range, lower limit (DC)	20.4 V
● permissible range, upper limit (DC)	28.8 V
Input current	
from load voltage L+ (without load), max.	160 mA
from backplane bus 5 V DC, max.	110 mA
Power loss	
Power loss, typ.	6.6 W
Digital outputs	
Number of digital outputs	32
Short-circuit protection	Yes; Electronic
● Response threshold, typ.	1 A
Limitation of inductive shutdown voltage to	L+ (-53 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
● on lamp load, max.	5 W
Load resistance range	
● lower limit	48 Ω
● upper limit	4 kΩ
Output voltage	
● for signal "1", min.	L+ (-0.8 V)
Output current	
● for signal "1" rated value	0.5 A
● for signal "1" permissible range for 0 to 40 °C, min.	5 mA
● for signal "1" permissible range for 0 to 40 °C, max.	0.6 A
● for signal "1" permissible range for 40 to 60 °C, min.	5 mA
● for signal "1" permissible range for 40 to 60 °C, max.	0.6 A
● for signal "1" minimum load current	5 mA
● for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
● "0" to "1", max.	100 µs
● "1" to "0", max.	500 µs
Parallel switching of two outputs	
● for uprating	No
● for redundant control of a load	Yes; only outputs of the same group
Switching frequency	
● with resistive load, max.	100 Hz
● with inductive load, max.	0.5 Hz

● with inductive load (acc. to IEC 60947-5-1, DC13), max.	0.5 Hz
● on lamp load, max.	10 Hz
Total current of the outputs (per group)	
horizontal installation	
— up to 40 °C, max.	4 A
— up to 60 °C, max.	3 A
vertical installation	
— up to 40 °C, max.	2 A
Cable length	
● shielded, max.	1 000 m
● unshielded, max.	600 m
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Alarms	
● Diagnostic alarm	No
Diagnoses	
● Diagnostic information readable	No
● Wire-break	No
● Short-circuit	No
● missing load voltage	No
Diagnostics indication LED	
● Rated load voltage PWR (green)	No
● Fuse OK FSG (green)	No
● Group error SF (red)	No
● Status indicator digital output (green)	Yes; per channel
● Channel fault indicator F (red)	No
Potential separation	
Potential separation digital outputs	
● between the channels	Yes
● between the channels, in groups of	8
● between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	500 V DC
connection method	
required front connector	40-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	260 g

last modified: 3/12/2024

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Data sheet 6ES7392-1AJ00-0AA0

SIMATIC S7-300, Front connector for signal modules with screw contacts, 20-pole

General information	
Product type designation	Front connector
Ambient conditions	
Ambient temperature during operation	
● min.	0 °C
● max.	60 °C
Ambient temperature during storage/transportation	
● min.	-40 °C
● max.	70 °C
Accessories	
belongs to product	S7-300
connection method	
Connection I/O signals	
● Connection method	Screw terminals
● Number of lines per connection	1; or combination of 2 conductors of up to 1.5 mm² (total) in a shared ferrule
Conductor cross-section in mm²	
— Connectable cable cross-sections for massive cables, min.	0.25 mm²
— Connectable cable cross-sections for massive cables, min.	1.5 mm²
— Connectable cable cross-sections for flexible cables without end sleeve, min.	0.25 mm²
— Connectable cable cross-sections for flexible cables without end sleeve, max.	1.5 mm²
— Connectable cable cross-sections for flexible cables with end sleeve, min.	0.25 mm²
— Connectable cable cross-sections for flexible cables with end sleeve, max.	1.5 mm²
Conductor cross-section acc. to AWG	
— Connectable cable cross-sections for massive cables, min.	24
— Connectable cable cross-sections for massive cables, min.	16
— Connectable cable cross-sections for flexible cables without end sleeve, min.	24
— Connectable cable cross-sections for flexible cables without end sleeve, max.	16
— Connectable cable cross-sections for flexible cables with end sleeve, min.	24
— Connectable cable cross-sections for flexible cables with end sleeve, max.	16
Wire end processing	
— Stripped length of cables, min.	6 mm
— Stripped length of cables, max.	6 mm

— End sleeve acc. to DIN 46228 without plastic sleeve	Design A, 5 mm to 7 mm long
— End sleeve acc. to DIN 46228 with plastic sleeve	Design E, up to 6 mm long
Mounting	
— Tool	Screwdriver, conical design, 3 mm to 3.5 mm
— Tightening torque, min.	0.4 N·m
— Tightening torque, max.	0.7 N·m
Dimensions	
Width	23 mm
Height	131 mm
Depth	36 mm
Weights	
Weight, approx.	70 g

last modified: 3/12/2024

SIEMENS

Data sheet 6ES7392-1AM00-0AA0

SIMATIC S7-300, Front connector with screw contacts, 40-pole

General information	
Product type designation	Front connector
Ambient conditions	
Ambient temperature during operation	
● min.	0 °C
● max.	60 °C
Ambient temperature during storage/transportation	
● min.	-40 °C
● max.	70 °C
Accessories	
belongs to product	S7-300
connection method	
Connection I/O signals	
● Connection method	Screw terminals
● Number of lines per connection	1; Or 2 cables up to 0.75 mm² (total) in a shared end sleeve
Conductor cross-section in mm²	
— Connectable cable cross-sections for massive cables, min.	0.14 mm²
— Connectable cable cross-sections for massive cables, min.	0.75 mm²
— Connectable cable cross-sections for flexible cables without end sleeve, min.	0.14 mm²
— Connectable cable cross-sections for flexible cables without end sleeve, max.	0.75 mm²
— Connectable cable cross-sections for flexible cables with end sleeve, min.	0.14 mm²
— Connectable cable cross-sections for flexible cables with end sleeve, max.	0.75 mm²
Conductor cross-section acc. to AWG	
— Connectable cable cross-sections for massive cables, min.	24
— Connectable cable cross-sections for massive cables, min.	19
— Connectable cable cross-sections for flexible cables without end sleeve, min.	24
— Connectable cable cross-sections for flexible cables without end sleeve, max.	19
— Connectable cable cross-sections for flexible cables with end sleeve, min.	24
— Connectable cable cross-sections for flexible cables with end sleeve, max.	19
Wire end processing	
— Stripped length of cables, min.	6 mm
— Stripped length of cables, max.	6 mm

— End sleeve acc. to DIN 46228 without plastic sleeve	Design A, 5 mm to 7 mm long
— End sleeve acc. to DIN 46228 with plastic sleeve	Design E, up to 6 mm long
Mounting	
— Tool	Screwdriver, conical design, 3 mm to 3.5 mm
— Tightening torque, min.	0.4 N·m
— Tightening torque, max.	0.7 N·m
Dimensions	
Width	21.6 mm
Height	125 mm
Depth	40.9 mm
Weights	
Weight, approx.	137 g

last modified: 3/12/2024

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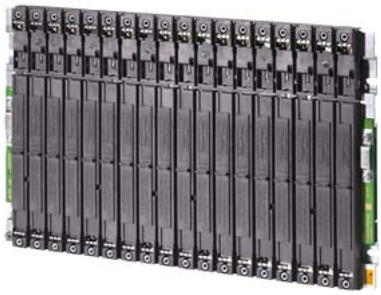
Data sheet 6ES7400-2JA10-0AA0

SIMATIC S7-400, rack aluminum UR2-H, central and distributed with 2 x 9 slots



General information	
Product type designation	UR2-H
Hardware configuration	
Rack	
● Communication bus	Yes; Separated
● P bus	Yes; Separated
Slots	
● Number of slots	18; 2 segments with 9 slots each
Standards, approvals, certificates	
CE mark	Yes
UKCA mark	Yes
UL approval	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
CCC	Yes
Ambient conditions	
Ambient temperature during operation	
● min.	0 °C
● max.	60 °C
Ambient temperature during storage/transportation	
● min.	0 °C
● max.	70 °C
Mechanics/material	
rack profile material	aluminum
Dimensions	
Width	482.5 mm
Height	290 mm
Depth	27.5 mm
Weights	
Weight, approx.	3 kg

last modified: 2/20/2023

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Data sheet 6ES7407-0KA02-0AA0

Figure similar

SIMATIC S7-400, Power supply PS407: 10 A, wide range, UC 120/230V, 5 V DC/10 A

Supply voltage	
Rated value (DC)	
● 120 V DC	Yes
● 230 V DC	Yes
Rated value (AC)	
● 120 V AC	Yes
● 230 V AC	Yes
Line frequency	
● Rated value 50 Hz	Yes
● Rated value 60 Hz	Yes
● permissible range, lower limit	47 Hz
● permissible range, upper limit	63 Hz
Mains buffering	
● Mains/voltage failure stored energy time	20 ms
● Mains buffering according to NAMUR recommendation	Yes
Input current	
Rated value at 120 V DC	1 A
Rated value at 230 V DC	0.5 A
Rated value at 120 V AC	0.9 A
Rated value at 230 V AC	0.5 A
Inrush current, max.	63 A; Full width at half maximum 1 ms
Leakage current, max.	5 mA
output voltage / header	
Type of output voltage	DC
Rated value (DC)	
● 5 V DC	Yes
● 24 V DC	Yes
Output current	
for backplane bus (5 V DC), max.	10 A; no base load required
for backplane bus (24 V DC), max.	1 A; idling-proof
Short-circuit protection	Yes
Power	
Active power input, typ.	95 W
Power loss	
Power loss, typ.	20 W
Battery	
Backup battery	
● Backup battery (optional)	Yes; 1x lithium AA; 3.6 V / 2.2 Ah
Hardware configuration	

Slots	
● required slots	2
Potential separation	
primary/secondary	Yes
Isolation	
Overvoltage category	II
EMC	
Compliance with line harmonic distortion limits	
● Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3	Yes
Degree and class of protection	
Equipment protection class	I, with protective conductor
Standards, approvals, certificates	
FM approval	Yes; Ta: 0 °C to 70 °C T4
BIS	Yes
Ambient conditions	
Ambient temperature during operation	
● min.	0 °C
● max.	60 °C
connection method	
Design of electrical connection	3x 1.5 mm², solid or stranded wire with end sleeve, external diameter 3 mm to 9 mm
Dimensions	
Width	50 mm
Height	290 mm
Depth	217 mm
Weights	
Weight, approx.	1 200 g

last modified: 3/12/2024

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Data sheet 6ES7414-5HM06-0AB0

SIMATIC S7-400H, CPU 414-5H, central processing unit for S7-400H and S7-400F/FH, 5 interfaces: 1x MPI/DP, 1x DP, 1x PN and 2 for sync modules, 4 MB memory (2 MB data/2 MB program),

General information	
Product type designation	CPU 414-5H PN/DP
HW functional status	1
Firmware version	V6.0
Product function	
● Isochronous mode	No
Engineering with	
● Programming package	As of STEP 7 V5.5 SP2 with HF1
CiR - Configuration in RUN	
CiR synchronization time, basic load	100 ms
CiR synchronization time, time per I/O byte	0 µs
Supply voltage	
Rated value (DC)	Power supply via system power supply
Input current	
from backplane bus 5 V DC, typ.	1.6 A
from backplane bus 5 V DC, max.	1.9 A
from backplane bus 24 V DC, max.	150 mA; 150 mA per DP interface
from interface 5 V DC, max.	90 mA; At each DP interface
Power loss	
Power loss, typ.	7.5 W
Memory	
Type of memory	other
Work memory	
● integrated	4 Mbyte
● integrated (for program)	2 Mbyte
● integrated (for data)	2 Mbyte
● expandable	No
Load memory	
● expandable FEPROM	Yes; with Memory Card (FLASH)
● expandable FEPROM, max.	64 Mbyte
● integrated RAM, max.	512 kbyte
● expandable RAM	Yes
● expandable RAM, max.	64 Mbyte
Backup	
● present	Yes
● with battery	Yes; all data
● without battery	No
Battery	
Backup battery	
● Backup current, typ.	180 µA; Valid up to 40°C

● Backup current, max.	1 000 µA
● Backup time, max.	Dealt with in the module data manual with the secondary conditions and the factors of influence
● Feeding of external backup voltage to CPU	5 V DC to 15 V DC
CPU processing times	
for bit operations, typ.	18.75 ns
for word operations, typ.	18.75 ns
for fixed point arithmetic, typ.	18.75 ns
for floating point arithmetic, typ.	37.5 ns
CPU-blocks	
DB	
● Number, max.	6 000; Number range: 1 to 16000
● Size, max.	64 kbyte
FB	
● Number, max.	3 000; Number range: 0 to 7999
● Size, max.	64 kbyte
FC	
● Number, max.	3 000; Number range: 0 to 7999
● Size, max.	64 kbyte
OB	
● Number, max.	see instruction list
● Size, max.	64 kbyte
● Number of free cycle OBs	1; OB 1
● Number of time alarm OBs	4; OB 10-13
● Number of delay alarm OBs	4; OB 20-23
● Number of cyclic interrupt OBs	4; OB 32-35
● Number of process alarm OBs	4; OB 40-43
● Number of DPV1 alarm OBs	3; OB 55-57
● Number of startup OBs	2; OB 100, 102
● Number of asynchronous error OBs	9; OB 80-88
● Number of synchronous error OBs	2; OB 121, 122
Nesting depth	
● per priority class	24
● additional within an error OB	1
Counters, timers and their retentivity	
S7 counter	
● Number	2 048
Retentivity	
— adjustable	Yes
— preset	Z 0 to Z 7
Counting range	
— lower limit	0
— upper limit	999
IEC counter	
● present	Yes
● Type	SFB
● Number	Unlimited (limited only by RAM capacity)
S7 times	
● Number	2 048
Retentivity	
— adjustable	Yes
— preset	No times retentive
Time range	
— time range / of the S7 timers / initial value	10 ms
— time range / of the S7 timers / full-scale value	9 990 s
IEC timer	
● present	Yes
● Type	SFB
● Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	Total working and load memory (with backup battery)

Flag	
● Size, max.	8 192 byte
● Retentivity available	Yes
● Retentivity preset	MB 0 to MB 15
● Number of clock memories	8; in 1 memory byte
Local data	
● adjustable, max.	16 kbyte
● preset	8 kbyte
Address area	
I/O address area	
● Inputs	8 kbyte
● Outputs	8 kbyte
Process image	
● Inputs, adjustable	8 kbyte
● Outputs, adjustable	8 kbyte
● Inputs, default	256 byte
● Outputs, default	256 byte
● consistent data, max.	244 byte
● Access to consistent data in process image	Yes
Subprocess images	
● Number of subprocess images, max.	15
Digital channels	
● Inputs	65 536
— of which central	65 536
● Outputs	65 536
— of which central	65 536
Analog channels	
● Inputs	4 096
— of which central	4 096
● Outputs	4 096
— of which central	4 096
Hardware configuration	
Number of expansion units, max.	21
connectable OPs	63
Multicomputing	No
Interface modules	
● Number of connectable IMs (total), max.	6
● Number of connectable IM 460s, max.	6
● Number of connectable IM 463s, max.	4; Single mode only
Number of DP masters	
● integrated	2
● via CP	10; CP 443-5 Extended
● Mixed mode IM + CP permitted	No
● via interface module	0
Number of IO Controllers	
● integrated	1
● via CP	0
Number of operable FMs and CPs (recommended)	
● FM	See manual Automation System S7-400H fault-tolerant systems. Limited by number of slots and number of connections
● CP, PtP	See manual Automation System S7-400H fault-tolerant systems. Limited by number of slots and number of connections
● PROFIBUS and Ethernet CPs	14; Of which max. 10 CP as DP master
Slots	
● required slots	2
Time of day	
Clock	
● Hardware clock (real-time)	Yes
● retentive and synchronizable	Yes
● Resolution	1 ms
● Deviation per day (buffered), max.	1.7 s; Power off

● Deviation per day (unbuffered), max.	8.6 s; Power on
Operating hours counter	
● Number	16
● Number/Number range	0 to 15
● Range of values	SFCs 2, 3 and 4: 0 to 32767 hours SFC 101: 0 to 2^31 - 1 hours
● Granularity	1 h
● retentive	Yes
Clock synchronization	
● supported	Yes
● to MPI, master	Yes
● to MPI, slave	Yes
● to DP, master	Yes
● to DP, slave	Yes
● in AS, master	Yes
● in AS, slave	Yes
● on Ethernet via NTP	Yes; As client
Time difference in system when synchronizing via	
● Ethernet, max.	10 ms; Via NTP
● MPI, max.	200 ms
Interfaces	
Number of RS 485 interfaces	2
Number of other interfaces	2; Fiber-optic interface
Optical interface	No
1. Interface	
Interface type	MPI/PROFIBUS DP
Isolated	Yes
Interface types	
● RS 485	Yes
● Output current of the interface, max.	150 mA
Protocols	
● MPI	Yes
● PROFIBUS DP master	Yes
● PROFIBUS DP slave	No
MPI	
● Number of connections	32; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
● Transmission rate, max.	12 Mbit/s
Services	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	No
— S7 basic communication	No
— S7 communication	Yes
— S7 communication, as client	Yes
— S7 communication, as server	Yes
PROFIBUS DP master	
● Number of connections, max.	16; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
● Transmission rate, max.	12 Mbit/s
● Number of DP slaves, max.	32
Services	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	No
— S7 basic communication	No
— S7 communication	Yes
— S7 communication, as client	Yes
— S7 communication, as server	Yes
— Equidistance	No
— Isochronous mode	No
— SYNC/FREEZE	No

— Activation/deactivation of DP slaves	No
— Direct data exchange (slave-to-slave communication)	No
— DPV1	Yes
Address area	
— Inputs, max.	2 kbyte
— Outputs, max.	2 kbyte
User data per DP slave	
— User data per DP slave, max.	244 byte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
— Slots, max.	244
— per slot, max.	128 byte
PROFIBUS DP slave	
● Number of connections	No configuration of CPU as DP slave
2. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes; Autosensing
Autonegotiation	Yes
Autocrossing	Yes
Change of IP address at runtime, supported	No
Interface types	
● RJ 45 (Ethernet)	Yes
● Number of ports	2
● integrated switch	Yes
Protocols	
● PROFINET IO Controller	Yes
● PROFINET IO Device	No
● PROFINET CBA	No
● PROFIBUS DP master	No
● PROFIBUS DP slave	No
● Open IE communication	Yes
● Web server	No
● Point-to-point connection	No
● Media redundancy	Yes
PROFINET IO Controller	
● Transmission rate, max.	100 Mbit/s
Services	
— PG/OP communication	Yes
— S7 communication	Yes
— Isochronous mode	No
— Shared device	Yes; Single mode only
— Prioritized startup	No
— Number of connectable IO Devices, max.	256; In redundant mode via both interfaces
— Number of connectable IO Devices for RT, max.	256
— of which in line, max.	256
— Activation/deactivation of IO Devices	No
— IO Devices changing during operation (partner ports), supported	No
— Device replacement without swap medium	Yes
— Send cycles	250 µs, 500 µs, 1 ms, 2 ms, 4 ms
— Updating time	250 µs to 512 ms, minimum value depends on the number of configured user data and the configured single or redundant mode
Address area	
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
— User data consistency, max.	1 024 byte
Open IE communication	
● Number of connections, max.	62
● Local port numbers used at the system end	0, 20, 21, 25, 102, 135, 161, 34962, 34963, 34964, 65532, 65533, 65534, 65535

● Keep-alive function, supported	Yes
3. Interface	
Interface type	PROFIBUS DP
Interface types	
● RS 485	Yes
● Output current of the interface, max.	150 mA
Protocols	
● PROFIBUS DP master	Yes
● PROFIBUS DP slave	No
PROFIBUS DP master	
● Number of connections, max.	16
● Transmission rate, max.	12 Mbit/s
● Number of DP slaves, max.	96
Services	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	No
— S7 basic communication	No
— S7 communication	Yes
— S7 communication, as client	Yes
— S7 communication, as server	Yes
— Equidistance	No
— Isochronous mode	No
— SYNC/FREEZE	No
— Activation/deactivation of DP slaves	No
— Direct data exchange (slave-to-slave communication)	No
— DPV0	Yes
— DPV1	Yes
Address area	
— Inputs, max.	6 kbyte
— Outputs, max.	6 kbyte
User data per DP slave	
— data volume / at the 3rd interface / as DP master / as user data for inputs/outputs per distributed I/O DP slave / maximum	244 byte
— data volume / at the 3rd interface / as DP master / as user data for inputs per distributed I/O DP slave / maximum	244 byte
— data volume / at the 3rd interface / as DP master / as reference data for outputs per distributed I/O DP slave / maximum	244 byte
— Number of slots per interface, max.	244
— data volume / at the 3rd interface / as DP master / as user data for inputs/outputs per distributed I/O DP slave / per slot / maximum	128 byte
4. Interface	
Interface type	Pluggable synchronization submodule (FO)
Plug-in interface modules	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0
5. Interface	
Interface type	Pluggable synchronization submodule (FO)
Plug-in interface modules	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0
Protocols	
Redundancy mode	
Media redundancy	
— Switchover time on line break, typ.	200 ms
— Number of stations in the ring, max.	50
SIMATIC communication	
● S7 routing	Yes
Open IE communication	
● TCP/IP	Yes; via integrated PROFINET interface and loadable FBs
— Number of connections, max.	62
— Data length, max.	32 kbyte

— several passive connections per port, supported	Yes
● ISO-on-TCP (RFC1006)	Yes; Via integrated PROFINET interface or CP 443-1 and loadable FBs
— Number of connections, max.	62
— Data length, max.	32 kbyte; 1 452 bytes via CP 443-1 Adv.
● UDP	Yes; via integrated PROFINET interface and loadable FBs
— Number of connections, max.	62
— Data length, max.	1 472 byte
Web server	
● supported	No
Isochronous mode	
Equidistance	No
communication functions / header	
PG/OP communication	Yes
● Number of connectable OPs without message processing	63
● Number of connectable OPs with message processing	63; When using Alarm_S/SQ and Alarm_D/DQ
Data record routing	Yes
Global data communication	
● supported	No
S7 basic communication	
● communication function / S7 basic communication	No
S7 communication	
● supported	Yes
● as server	Yes
● as client	Yes
● User data per job, max.	64 kbyte
● User data per job (of which consistent), max.	462 byte; 1 variable
S5 compatible communication	
● supported	Yes; (via CP max. 10 and FC AG_SEND and FC AG_RECV)
● User data per job, max.	8 kbyte
● User data per job (of which consistent), max.	240 byte
● Number of simultaneous AG-SEND/AG-RECV orders per CPU, max.	64/64
Standard communication (FMS)	
● supported	Yes; Via CP and loadable FB
Number of connections	
● overall	64
● usable for PG communication	
— reserved for PG communication	1
— adjustable for PG communication, max.	0
● usable for OP communication	
— reserved for OP communication	1
— adjustable for OP communication, max.	0
● usable for S7 basic communication	
— reserved for S7 basic communication	0
— adjustable for S7 basic communication, max.	0
● usable for S7 communication	
— reserved for S7 communication	0
— adjustable for S7 communication, max.	0
● usable for routing	
— reserved for routing	0
— adjustable for routing, max.	0
S7 message functions	
Number of login stations for message functions, max.	63; Max. 63 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 8 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)
Symbol-related messages	No
SCAN procedure	No
Program alarms	Yes
Process diagnostic messages	Yes
simultaneously active Alarm-S blocks, max.	400; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks
Alarm 8-blocks	Yes
● Number of instances for alarm 8 and S7 communication	2 500

blocks, max.	
● preset, max.	900
Process control messages	Yes
Number of archives that can log on simultaneously (SFB 37 AR_SEND)	16
Test commissioning functions	
Status block	Yes
Single step	Yes
Number of breakpoints	16
Status/control	
● Status/control variable	Yes; Up to 16 variable tables
● Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
● Number of variables, max.	70
Forcing	
● Forcing	Yes
● Forcing, variables	Inputs/outputs, bit memories, distributed I/Os
● Number of variables, max.	256
Diagnostic buffer	
● present	Yes
● Number of entries, max.	3 200
— adjustable	Yes
— preset	120
Service data	
● can be read out	Yes
EMC	
Emission of radio interference acc. to EN 55 011	
● Limit class A, for use in industrial areas	Yes
● Limit class B, for use in residential areas	No
configuration / header	
Configuration software	
● STEP 7	Yes
configuration / programming / header	
● Command set	see instruction list
● Nesting levels	7
● Access to consistent data in process image	Yes
● System functions (SFC)	see instruction list
● System function blocks (SFB)	see instruction list
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
configuration / programming / number of simultaneously active SFC / header	
— RD_REC	8
— WR_REC	8
— WR_PARM	8
— PARM_MOD	1
— WR_DPARM	2
— DPNRM_DG	8
— RDSYSST	8
— DP_TOPOL	1
configuration / programming / number of simultaneously active SFB / header	
— RDREC	8
— WRREC	8
Know-how protection	
● User program protection/password protection	Yes
● Block encryption	Yes; With S7 block Privacy
Dimensions	

Width	50 mm
Height	290 mm
Depth	219 mm
Weights	
Weight, approx.	995 g

last modified: 4/25/2024

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Data sheet 6ES7952-1KP00-0AA0

SIMATIC S7, memory card for S7-400, long design, 5V Flash EPROM, 8 Mbyte

Figure similar

General information	
Product type designation	Memory card
Memory	
Type of memory	Flash-EPROM
Memory size	8 Mbyte
Accessories	
belongs to product	S7-400
Weights	
Weight, approx.	51 g

last modified: 3/12/2024

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Data sheet 6ES7972-0BB52-0XA0

product type designation	**PROFIBUS connector**
product description	PROFIBUS bus connector, RS 485, Fast Connect, with programming port, 90°
	SIMATIC DP, Connection plug for PROFIBUS up to 12 Mbit/s 90° cable outlet, Insulation displacement method FastConnect, With PG receptacle 15.8x 59x 35.6 mm (BxHxD)

suitability for use	For connecting PROFIBUS stations to the PROFIBUS bus cable
transfer rate	
transfer rate / with PROFIBUS DP	9.6 kbit/s ... 12 Mbit/s
interfaces	
number of electrical connections	
● for PROFIBUS cables	2
● for network components or terminal equipment	1
type of electrical connection	
● for PROFIBUS cables	Integrated insulation displacement terminals for 2-core PB FC installation cables
● for network components or terminal equipment	9-pin sub D connector
type of electrical connection / FastConnect	Yes
mechanical data	
design of terminating resistor	Resistor combination integrated and connectable via slide switch
material / of the enclosure	plastic
locking mechanism design	Screwed joint
design, dimensions and weights	
type of cable outlet	90 degree cable outlet
width	15.8 mm
height	59 mm
depth	35.6 mm
net weight	45 g
ambient conditions	
ambient temperature	
● during operation	-25 ... +60 °C
● during storage	-40 ... +70 °C
● during transport	-40 ... +70 °C
protection class IP	IP20
product features, product functions, product components / general	
product feature	
● silicon-free	Yes
product component	
● PG connection socket	Yes
● strain relief	Yes
standards, specifications, approvals	
certificate of suitability	
● RoHS conformity	Yes
● UL approval	Yes

reference code	
● according to IEC 81346-2	XG

further information / internet links

internet link	
● to website: Selection guide for cables and connectors	https://support.industry.siemens.com/cs/ww/en/view/109766358
● to website: Industrial communication	https://www.siemens.com/simatic-net
● to web page: SiePortal	https://sieportal.siemens.com
● to website: Image database	https://www.automation.siemens.com/bilddb
● to website: CAx-Download-Manager	https://www.siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com

security information

security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Approvals / Certificates

General Product Approval

EG-Konf. | CCC | UKCA | Manufacturer Declaration | UL | RCM

EMV	For use in hazardous locations

RCM | ATEX | IECEx | FM | UL | ATEX

For use in hazardous locations			Marine / Shipping	

Type Examination Certificate | IECEx | CCC-Ex | LRS | PRS

last modified: 5/18/2024

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Data sheet 6GK5108-0BA00-2AA3

********** spare part ********* SCALANCE X108, Unmanaged IE switch, 8x 10/100 Mbit/s RJ45 ports, LED diagnostics, error-signaling contact with set pushbutton, redundant power supply Manual available as a download .

product type designation	
product brand name	SCALANCE
product type designation	X108
transfer rate	
transfer rate	10 Mbit/s, 100 Mbit/s
interfaces / for communication / integrated	
number of electrical connections	
● for network components or terminal equipment	8; RJ45 with securing collar
number of 100 Mbit/s SC ports	
● for multimode	0
interfaces / other	
number of electrical connections	
● for signaling contact	1
● for power supply	1
type of electrical connection	
● for signaling contact	2-pole terminal block
● for power supply	4-pole terminal block
operating voltage / of the signaling contacts	
● at DC / rated value	24 V
operational current / of the signaling contacts	
● at DC / maximum	0.1 A
supply voltage, current consumption, power loss	
product component / connection for redundant voltage supply	Yes
type of voltage / 1 / of the supply voltage	DC
● supply voltage / 1 / rated value	24 V
● power loss [W] / 1 / rated value	3.36 W
● supply voltage / 1 / rated value	18 ... 32 V
● consumed current / 1 / maximum	0.14 A
● type of electrical connection / 1 / for power supply	4-pole terminal block
● product component / 1 / fusing at power supply input	Yes
● fuse protection type / 1 / at input for supply voltage	0.6 A / 60 V
ambient conditions	
ambient temperature	
● during operation	-20 ... +70 °C
● during storage	-40 ... +80 °C
● during transport	-40 ... +80 °C
relative humidity	
● at 25 °C / without condensation / during operation / maximum	95 %
protection class IP	IP30

design, dimensions and weights	
design	compact
width	60 mm
height	125 mm
depth	124 mm
net weight	0.78 kg
fastening method	
● 35 mm top hat DIN rail mounting	Yes
● wall mounting	Yes
● S7-300 rail mounting	Yes
● S7-1500 rail mounting	No
product functions / management, configuration, engineering	
product function	
● multiport mirroring	No
● CoS	Yes
● switch-managed	No
product functions / redundancy	
product function	
● Parallel Redundancy Protocol (PRP)/operation in the PRP-network	Yes
● Parallel Redundancy Protocol (PRP)/Redundant Network Access (RNA)	No
standards, specifications, approvals	
certificate of suitability	
● CE marking	Yes
● KC approval	Yes
standard	
● for safety / from CSA and UL	UL 60950-1, CSA C22.2 No. 60950-1
standards, specifications, approvals / other	
certificate of suitability	
● E1 approval	Yes
● railway application in accordance with EN 50155	No
standards, specifications, approvals / marine classification	
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	Yes
● French marine classification society (BV)	Yes
● Det Norske Veritas (DNV)	No
● DNV GL	Yes
● Lloyds Register of Shipping (LRS)	Yes
● Nippon Kaiji Kyokai (NK)	Yes
● Polski Rejestr Statkow (PRS)	Yes
● Royal Institution of Naval Architects (RINA)	Yes
product functions / general	
MTBF	139.83 a
reference code	
● according to IEC 81346-2	KF
● according to IEC 81346-2:2019	KFE
further information / internet links	
internet link	
● to website: Selection guide for cables and connectors	https://sie.ag/2QdlxcP
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: Industrial communication	http://www.siemens.com/simatic-net
● to website: Image database	http://automation.siemens.com/bilddb
● to website: CAx-Download-Manager	http://www.siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and

networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Approvals / Certificates

General Product Approval

EG-Konf.	Declaration of Conformity		CCC	UL	Miscellaneous

General Product Approval	EMV	For use in hazardous locations	Test Certificates		Marine / Shipping
RCM	KC	FM	Type Test Certificates/Test Report	inspection certificate	ABS

Marine / Shipping

BUREAU VERITAS	DNV	LRS	NK / Nippon Kaiji Kyokai	PRS	RINA

Marine / Shipping	Railway	Environment
RMRS	Confirmation	Confirmation

last modified: 6/19/2024

SIEMENS

Data sheet 6GK7443-1EX30-0XE0

product type designation	**CP 443-1**

Communications processor CP 443-1; 2x 10/100 Mbit/s (IE switch); RJ45 ports; ISO; TCP; UDP; PROFINET IO controller; S7 communication; Open communication (SEND/ RECEIVE); S7 routing; IP configuration via DHCP/ Block; IP Access control list; time-of-day synchronization; extended web diagnostics; Fast Startup; Support for PROFIenergy;

transfer rate	
transfer rate	
● at the 1st interface	10 ... 100 Mbit/s
interfaces	
number of interfaces / according to Industrial Ethernet	2
number of electrical connections	
● at the 1st interface / according to Industrial Ethernet	2
type of electrical connection	
● at the 1st interface / according to Industrial Ethernet	RJ45 port
design of the removable storage	
● C-PLUG	No
supply voltage, current consumption, power loss	
type of voltage / of the supply voltage	DC
supply voltage / 1 / from backplane bus	5 V
relative symmetrical tolerance / at DC	
● at 5 V	5 %
consumed current	
● from backplane bus / at DC / at 5 V / typical	1.4 A
power loss [W]	7.25 W
ambient conditions	
ambient temperature	
● during operation	0 ... 60 °C
● during storage	-40 ... +70 °C
● during transport	-40 ... +70 °C
relative humidity	
● at 25 °C / without condensation / during operation / maximum	95 %
protection class IP	IP20
design, dimensions and weights	
module format	Compact module S7-400 single width
width	25 mm
height	290 mm
depth	210 mm
net weight	0.7 kg
product features, product functions, product components / general	
number of units	
● per CPU / maximum	14
● note	max. 4 as PN IO ctrl.
performance data / open communication	

number of possible connections / for open communication / by means of SEND/RECEIVE blocks / maximum	64
data volume	
● as user data per ISO connection / for open communication / by means of SEND/RECEIVE blocks / maximum	8 Kibyte
● as user data per ISO on TCP connection / for open communication / by means of SEND/RECEIVE blocks / maximum	8 Kibyte
● as user data per TCP connection / for open communication / by means of SEND/RECEIVE blocks / maximum	8 Kibyte
● as user data per UDP connection / for open IE communication / by means of SEND/RECEIVE blocks / maximum	2 Kibyte
number of possible connections / for open communication	
● by means of T blocks / maximum	64
data volume	
● as user data per ISO on TCP connection / for open communication / by means of T blocks / maximum	1452 byte
performance data / S7 communication	
number of possible connections / for S7 communication	
● maximum	128; when using several CPUs
● with PG connections / maximum	2
performance data / multi-protocol mode	
number of active connections / with multi-protocol mode	128
performance data / PROFINET communication / as PN IO controller	
product function / PROFINET IO controller	Yes
number of PN IO devices / on PROFINET IO controller / operable / total	128
number of PN IO IRT devices / on PROFINET IO controller / operable	64
number of external PN IO lines / with PROFINET / per rack	4
data volume	
● as user data for input variables / as PROFINET IO controller / maximum	4 Kibyte
● as user data for output variables / as PROFINET IO controller / maximum	4 Kibyte
● as user data for input variables per PN IO device / as PROFINET IO controller / maximum	1433 byte
● as user data for output variables per PN IO device / as PROFINET IO controller / maximum	1433 byte
● as user data for input variables per PN IO device / for each sub-module as PROFINET IO controller / maximum	240 byte
● as user data for output variables per PN IO device / for each sub-module as PROFINET IO controller / maximum	240 byte
product functions / management, configuration, engineering	
product function / MIB support	Yes
protocol / is supported	
● SNMP v1	Yes
● DCP	Yes
● LLDP	Yes
configuration software	
● required	STEP 7 V5.5 SP3 or higher / STEP 7 Professional V12 (TIA Portal) or higher
product function / is supported / identification link	Yes; according to IEC 61406-1:2022
product functions / diagnostics	
product function / web-based diagnostics	Yes
product functions / switch	
product feature / switch	Yes
product function	
● switch-managed	No
● with IRT / PROFINET IO switch	Yes
● configuration with STEP 7	Yes
product functions / redundancy	
product function	
● ring redundancy	Yes

● redundancy manager	Yes
protocol / is supported / Media Redundancy Protocol (MRP)	Yes
product functions / security	
product function	
● password protection for Web applications	No
● ACL - IP-based	Yes
● ACL - IP-based for PLC/routing	No
● switch-off of non-required services	Yes
● blocking of communication via physical ports	Yes
● log file for unauthorized access	No
product functions / time	
product function / SICLOCK support	Yes
product function / pass on time synchronization	Yes
protocol / is supported	
● NTP	Yes
● SIMATIC time synchronization (SIMATIC Time)	Yes
standards, specifications, approvals / Environmental Product Declaration	
Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	291.68 kg
● during manufacturing	63.62 kg
● during operation	226.98 kg
● after end of life	1.08 kg
further information / internet links	
internet link	
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: Industrial communication	https://www.siemens.com/simatic-net
● to web page: SiePortal	https://sieportal.siemens.com
● to website: Image database	https://www.automation.siemens.com/bilddb
● to website: CAx-Download-Manager	https://www.siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Approvals / Certificates

General Product Approval

CE EG-Konf. | Declaration of Conformity | UKCA | CCC | EAC | UL

General Product Approval		EMV	For use in hazardous locations		
Miscellaneous	RCM	KC	ATEX	IECEx	FM

For use in hazardous locations	Marine / Shipping

CCC-Ex

UL

ABS

BUREAU VERITAS

DNV

Lloyd's Register LRS

Marine / Shipping	Environment

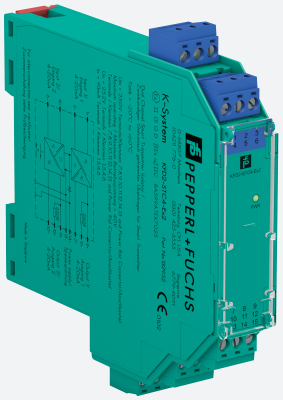
NK / Nippon Kaiji Kyokai

CCS (China Classification Society)

Confirmation

EPD

last modified: 6/25/2024



SMART Transmitter Power Supply

KFD2-STC4-Ex2

- 2-channel isolated barrier
- 24 V DC supply (Power Rail)
- Input 2-wire SMART transmitters
- Output 0/4 mA ... 20 mA
- Terminals with test points
- Up to SIL 2 acc. to IEC/EN 61508

Function

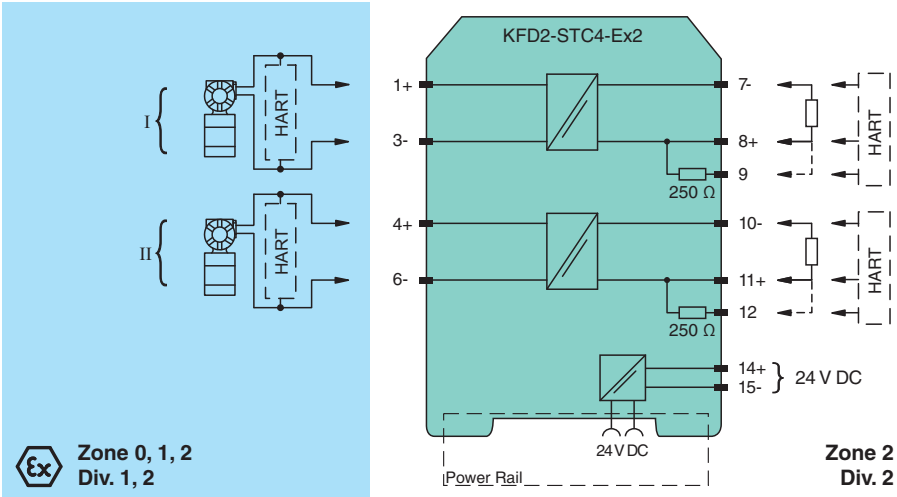
This isolated barrier is used for intrinsic safety applications.
The device supplies 2-wire SMART transmitters in a hazardous area.
It transfers the analog input signal to the safe area as an isolated current value.
Digital signals may be superimposed on the input signal in the hazardous or safe area and are transferred bi-directionally.
If the HART communication resistance in the loop is too low, the internal resistance of 250 Ω between terminals 8 and 9 can be used.
Test sockets for the connection of HART communicators are integrated into the terminals of the device.

Application

The device supports the following SMART protocols:

- HART
- BRAIN
- Foxboro

Connection



Technical Data

General specifications	
Signal type	Analog input
Functional safety related parameters	
Safety Integrity Level (SIL)	SIL 2
Supply	

Release date: 2023-06-05 Date of issue: 2023-06-05 Filename: 283699_eng.pdf

Technical Data

Connection		Power Rail or terminals 14+, 15-
Rated voltage	U_r	20 ... 35 V DC
Ripple		within the supply tolerance
Power dissipation		1.8 W
Power consumption		max. 2.7 W
Input		
Connection side		field side
Connection		terminals 1+, 3-; 4+, 6-
Input signal		0/4 ... 20 mA
Available voltage		≥ 16 V at 20 mA, terminals 1+, 3
Output		
Connection side		control side
Connection		terminals 7-, 8+; 10-, 11+
Load		0 ... 550 Ω at 20 mA
Output signal		0/4 ... 20 mA (overload > 25 mA)
Ripple		max. 50 µA $_{rms}$
Transfer characteristics		
Deviation		at 20 °C (68 °F), 0/4 ... 20 mA ≤ 10 µA incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage
Influence of ambient temperature		0.25 µA/K
Frequency range		field side into the control side: band width with 1 V_{pp} signal 0 ... 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V_{SS} signal 0.3 ... 7.5 kHz (-3 dB)
Settling time		200 µs
Rise time/fall time		20 µs
Galvanic isolation		
Output/power supply		functional insulation, rated insulation voltage 50 V AC
Output/Output		functional insulation, rated insulation voltage 50 V AC
Indicators/settings		
Display elements		LED
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
Electromagnetic compatibility		NE 21:2011
Degree of protection		IEC 60529:2001
Protection against electrical shock		UL 61010-1:2012
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP20
Connection		screw terminals
Mass		approx. 150 g
Dimensions		20 x 124 x 115 mm (0.8 x 4.9 x 4.5 inch) , (W x H x D) housing type B2
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with hazardous areas		
EU-type examination certificate		BAS 99 ATEX 7025 X
Marking		⟨Ex⟩ II (1)G [Ex ia Ga] IIC , ⟨Ex⟩ II (1)D [Ex ia Da] IIIC , ⟨Ex⟩ I (M1) [Ex ia Ma] I
Input		[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
Voltage	U_o	25.2 V
Current	I_o	93 mA
Power	P_o	0.586 W
Supply		
Maximum safe voltage	U_m	250 V (Attention! The rated voltage can be lower.)

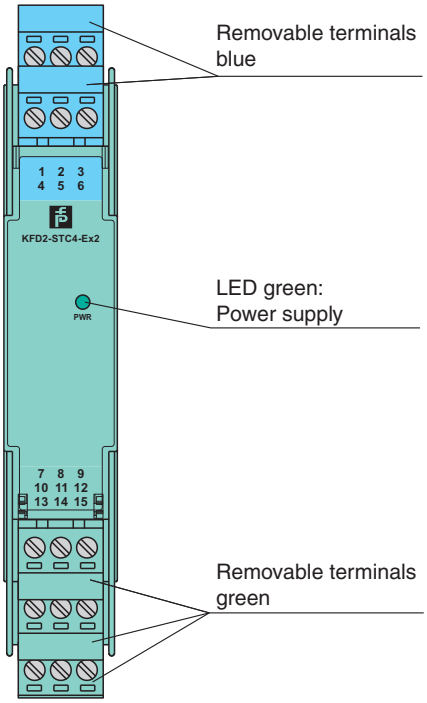
Release date: 2023-06-05 Date of issue: 2023-06-05 Filename: 283699_eng.pdf

Technical Data

Certificate	TÜV 99 ATEX 1499 X
Marking	⟨Ex⟩ II 3G Ex nA II T4
Galvanic isolation	
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Input/power supply	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity	
Directive 2014/34/EU	EN IEC 60079-0:2018+AC:2020 , EN 60079-11:2012 , EN 60079-15:2010
International approvals	
UL approval	E106378
Control drawing	116-0428 (cULus)
IECEx approval	
IECEx certificate	IECEx BAS 04.0015X IECEx CML 15.0055X
IECEx marking	[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I Ex nA IIC T4 Gc
General information	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com.

Assembly

Front view



Matching System Components

	**KFD2-EB2**	Power Feed Module
	**UPR-03**	Universal Power Rail with end caps and cover, 3 conductors, length: 2 m
	**UPR-03-M**	Universal Power Rail with end caps and cover, 3 conductors, length: 1,6 m

Release date: 2023-06-05 Date of issue: 2023-06-05 Filename: 283699_eng.pdf

Matching System Components

	**UPR-03-S**	Universal Power Rail with end caps and cover, 3 conductors, length: 0.8 m
	**K-DUCT-BU**	Profile rail, wiring comb field side, blue
	**K-DUCT-BU-UPR-03**	Profile rail with UPR-03- * insert, 3 conductors, wiring comb field side, blue

Accessories

	**K-500R0%1**	Measuring resistor
	**K-250R**	Measuring resistor
	**KF-STP-5BU**	Terminal block for KF modules, 3-pin screw terminal, with test sockets, blue
	**KF-STP-5GN**	Terminal block for KF modules, 3-pin screw terminal, with test sockets, green
	**KF-ST-5GN**	Terminal block for KF modules, 3-pin screw terminal, green
	**KF-CP**	Red coding pins, packaging unit: 20 x 6

Release date: 2023-06-05 Date of issue: 2023-06-05 Filename: 283699_eng.pdf

Coupling relay - PSR-PS22-1NO-1NC-24VDC-SC - 2702524

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Coupling relay for SIL 3 high and low-demand applications, couples digital output signals to the I/O, 1 enabling current path, 1 confirmation current path, safe state off applications, test pulse filter, fixed screw terminal block

Your advantages

- Up to SIL 3 according to IEC 61508
- Forcibly guided contacts according to EN 50205
- Easy proof test according to IEC 61508
- Low housing width of just 6.8 mm
- Long service life thanks to filtering of controller test pulses
- 1 enabling current path, 1 diagnostic current path
- Couples digital output signals from failsafe controllers to I/O devices (valves, etc.) for electrical isolation and power adaptation

Key Commercial Data

Packing unit	1 pc
GTIN	4 055626 280240
GTIN	4055626280240
Weight per Piece (excluding packing)	71.490 g
Custom tariff number	85364900
Country of origin	Germany

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area

Dimensions

Width	6.8 mm
Height	93.1 mm

Coupling relay - PSR-PS22-1NO-1NC-24VDC-SC - 2702524

Technical data

Dimensions

Depth	102.5 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)
Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Maximum altitude	≤ 2000 m (Above sea level)

Power supply

Rated control circuit supply voltage U_S	24 V DC -15 % / +10 % (A1/A2)
	20.4 V DC ... 26.4 V DC
Rated control supply current I_S	typ. 45 mA
Power consumption at U_S	typ. 1.08 W
Inrush current	typ. 150 mA (Δt < 5 ms at U_s)
Filter time	max. 3 ms (at A1-A2 in the event of voltage dips at U_s)
	max. 3 ms (at A1-A2; low test pulse width)
	≥ 50 ms (at A1-A2; low test pulse rate)
	max. 17 ms (at A1-A2; high test pulse width)
	≥ 600 ms (at A1-A2; high test pulse rate)
Diagnostic supply voltage U_D	24 V DC -15 % / +10 % (21/0V)
Input current at U_D	6 mA (at the contacts 21/0V for U_D; + 100 mA depending on load at contact 22)
Inrush current at U_D	typ. 200 mA (Δt < 1 ms; for contacts 21 - 0 V at U_D)
Protective circuit	Serial protection against polarity reversal 33 V suppressor diode (A1-A2)33 V suppressor diode (21/0V)

Relay outputs: enabling current path

Output name	Enabling current path
Output description	2 N/O contacts in series, without delay, floating
Number of outputs	1 (safety-related N/O contacts: 13/14)
Contact type	1 enabling current path
Contact material	$AgSnO_2$
Switching voltage	min. 12 V AC/DC
	max. 250 V AC/DC (Observe the load curve)
Limiting continuous current	6 A (High demand)
	4 A (Low demand)
Inrush current	min. 3 mA
	max. 6 A
Sq. Total current	36 A^2 (observe derating)
Switching capacity	min. 60 mW
Switching frequency	max. 1 Hz

Coupling relay - PSR-PS22-1NO-1NC-24VDC-SC - 2702524

Technical data

Relay outputs: enabling current path

Mechanical service life	10x 10^6 cycles
Switching capacity according to IEC 60947-5-1	4 A (24 V (DC13))
	5 A (250 V (AC15))
Output fuse	6 A gL/gG
	4 A gL/gG (for low-demand applications)

Relay outputs: return current/signaling current path

Output name	Confirmation current path
Output description	2 N/C contacts in series, without delay, not floating (reference ground: A2)
Number of outputs	1 (safety-related N/C contacts: 21/22)
Contact type	1 confirmation current path
Contact material	AgCuNi, + Au
Output voltage	Output of diagnostic supply voltage at contact 22: U_D - 1.6 V
Switching voltage	min. 20.4 V DC
	max. 26.4 V DC
Limiting continuous current	100 mA
Inrush current	min. 1 mA
	max. 100 mA
Switching capacity	min. 20 mW
Switching frequency	max. 1 Hz
Mechanical service life	10x 10^6 cycles
Output fuse	150 mA Fast-blow

Times

Typical pickup time at US	< 150 ms (with U_s when controlled via A1)
Typical release time at US	< 30 ms (when controlled via A1)
Recovery time	500 ms

General

Relay type	Electromechanical relay with forcibly guided contacts in accordance with IEC/EN 61810-3 (EN 50205)
Nominal operating mode	100% operating factor
Net weight	71.494 g
Mounting position	vertical or horizontal
Mounting type	DIN rail mounting
Assembly instructions	See derating curve
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Housing material	PBT
Housing color	yellow
Operating voltage display	1 x yellow LED
Status display	2 x green LEDs

Coupling relay - PSR-PS22-1NO-1NC-24VDC-SC - 2702524

Technical data

General

Indication	1 x red LED

Connection data

Connection method	Screw connection
pluggable	no
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	26
Conductor cross section AWG max.	12
Stripping length	12 mm
Screw thread	M3
Torque	0.5 Nm ... 0.6 Nm

Safety-related characteristic data

Stop category	0
Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	3
Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	3
Designation	EN 50156-2
Safety Integrity Level (SIL)	3 (Reference IEC 61508)

Standards and Regulations

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178, EN 60079-15
Rated insulation voltage	250 V AC
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths and housing
	Safe isolation, 6 kV reinforced insulation from the control circuit (A1/A2) and diagnostics circuit (0V/21/22) to the enabling current path (13/14)
Degree of pollution	2
Overvoltage category	III
Shock	15g
Vibration (operation)	10 Hz ... 150 Hz, 2g
Conformance	CE-compliant
ATEX	# II 3 G Ex nA nC IIC T4 Gc
IECEx	Ex nA nC IIC T4 Gc
UL, USA/Canada	cULus
	Class I, Zone 2, AEx nA nC IIC T4 / Ex nA nC IIC Gc T4 X
	Class I, Div. 2, Groups A, B, C, D, T4
Environmental simulation test	ISA-S71.04 (G3)

Coupling relay - PSR-PS22-1NO-1NC-24VDC-SC - 2702524

Technical data

Environmental Product Compliance

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

Classifications

eCl@ss

eCl@ss 5.1	27371901
eCl@ss 6.0	27371800
eCl@ss 7.0	27371819
eCl@ss 8.0	27371819
eCl@ss 9.0	27371819

ETIM

ETIM 5.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449

Approvals

Approvals

Approvals

UL Listed / cUL Listed / Functional Safety / EAC / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324

Coupling relay - PSR-PS22-1NO-1NC-24VDC-SC - 2702524

Approvals

Functional Safety		44-780-15124306
EAC		RU C-DE.A*30.B.01082
cULus Listed		

FF12A230UF | standard with fan

> CONTACT US

FF series exhaust filter and filter fans represents a side-mounted cooling solution with filtered ambient air to maintain optimum ventilation inside the electrical cabinets. Screwless connection, fast tool-free mounting system with clip and maintenance friendliness are the main benefits. Available in a wide range of configurations for both indoor and outdoor use.

Technical data		
APPROVALS		
Approvals	CE; cURus; cULus; cCSAus; UKCA	
PERFORMANCE		
Max Airflow	45/50 26/29	m³/h CFM
Airflow with Exhaust Filter	29/34 17/20	m³/h CFM
Max Static Pressure	55/62 0.22/0.25	Pa in H2O
ELECTRICAL DATA		
Rated Voltage	230	V a.c.
Rated Current	0.11/0.1	A
Rated Power	18/17	W
Operating Voltage	216-244	V a.c.
Frequency	50/60	Hz
Appliance Class	I	
Motor Protection	Impedance Protected	
MECHANICAL DATA		
Mounting Wall Thickness	1.3-3.2 0.05-0.13	mm in
GENERIC DATA		
Spare Parts Filter Media	M12FPF-EU3	

FF12A230UF | standard with fan

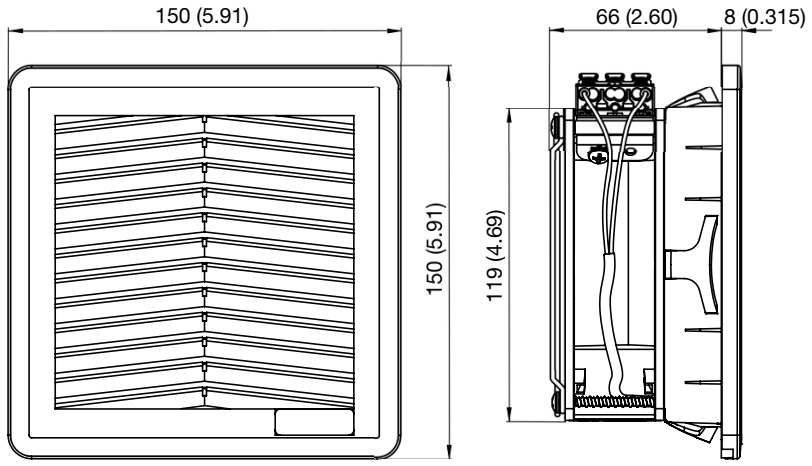
> CONTACT US

Technical data		
Casing Material	PC/ABS UL94 V-0	
RAL Number	7035	
Airflow Direction	Direct	
Electrical Connection	Screwless Terminal Block	
Life Expectancy	57000 57000	h at 25 °C h at 77 °F
Wires Section	0.75-2.5	mm²
Wires Section	20-14	AWG
Fan Noise	46/49	dB(A)
Filter Class	G3	EN 779
Filter Class	ISO coarse 55%	ISO 16890
Filter Material	thermo-linked progressive structure synthetic fibre	
ENVIRONMENTAL AND THERMAL DATA		
IP Protection Degree	IP54	
Operating Temperature	-10÷55 14÷131	°C °F
Storage Temperature	-40÷70 -40÷158	°C °F
UL DATA		
UL File Number Recognized Component	E237844	
UL File Number Listed	E500932	
UL Environmental Type Rating	Type 12	
UL Ambient Temperature	55 131	°C °F

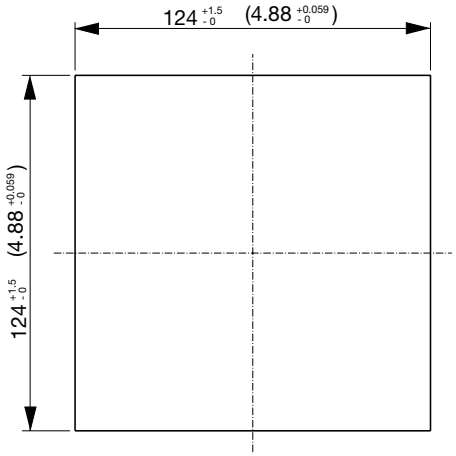
FF12A230UF | standard with fan

> CONTACT US

Technical drawing mm (in)



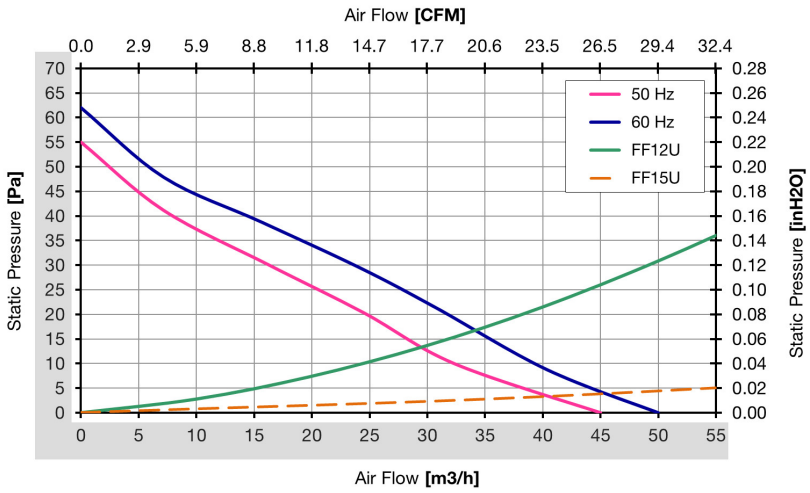
Mounting cut-out mm (in)



FF12A230UF | standard with fan

> CONTACT US

Air performance



PLC-RSC- 24DC/21 - Relay Module

2966171

https://www.phoenixcontact.com/us/products/2966171

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.

PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V DC

Your advantages

- Slim design
- Efficient connection to system cabling using V8 adapter
- RT III sealed relay
- Safe isolation between coil and contact side
- Functional plug-in bridges
- Integrated input circuit and interference suppression circuit

Commercial data

Item number	2966171
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	C462
Product key	CK6226
Catalog page	Page 364 (C-5-2019)
GTIN	4017918130732
Weight per piece (including packing)	39.8 g
Weight per piece (excluding packing)	31.06 g
Customs tariff number	85364190
Country of origin	DE

Technical data

Notes

Notes on operation	Separating plate PLC-ATP must be installed for voltages larger than 250 V (L1, L2, L3) between identical terminal blocks in adjacent modules. Potential bridging is then carried out with FBST 8-PLC... or FBST 500....

Product properties

Product type	Relay Module
Product family	PLC-INTERFACE
Application	Universal
Operating mode	100% operating factor
Mechanical service life	2x 10^7 cycles

Data management status

Date of last data management	27.06.2024

Electrical properties

Maximum power dissipation for nominal condition	0.22 W
Test voltage (Winding/contact)	4 kV AC (50 Hz, 1 min., winding/contact)

Insulation characteristics: Coil/contact

Rated insulation voltage	250 V
Rated impulse withstand voltage	6 kV
Overvoltage category	III
Degree of pollution	3

Input data

Coil side

Nominal input voltage U_N	24 V DC
Input voltage range	18.5 V DC ... 33.6 V DC (20 °C)
Nominal voltage (plugged-in electromechanical relay)	24 V DC
Drive and function	monostable
Drive (polarity)	polarized
Typical input current at U_N	9 mA
Typical response time	5 ms
Typical release time	8 ms
Protective circuit	Reverse polarity protection; Polarity protection diode
	Freewheeling diode; Freewheeling diode
Operating voltage display	Yellow LED

Output data

Switching

Contact switching type	1 changeover contact
Type of switch contact	Single contact
Contact connection type	Power contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC (The separating plate PLC-ATP should be installed for voltages larger than 250 V (L1, L2, L3) between identical terminal blocks in adjacent modules. Potential bridging is then carried out with FBST 8-PLC... or ...FBST 500...)
Minimum switching voltage	5 V (100 mA)
Limiting continuous current	6 A
Maximum inrush current	10 A (4 s)
Min. switching current	10 mA (12 V)
Short-circuit current	200 A (conditional short-circuit current)
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Output fuse	4 A gL/gG NEOZED
Switching capacity	2 A (at 24 V, DC13)
	0.2 A (at 110 V, DC13)
	0.1 A (at 220 V, DC13)
	3 A (at 24 V, AC15)
	3 A (at 120 V, AC15)
	3 A (at 230 V, AC15)

Connection data

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section rigid	0.14 mm² ... 2.5 mm²
Conductor cross section flexible	0.14 mm² ... 2.5 mm²
	0.2 mm² ... 2.5 mm² (Single ferrule)
	2x 0.5 mm² ... 1.5 mm² (TWIN ferrule)
Conductor cross section AWG	26 ... 14
Tightening torque	0.6 Nm ... 0.8 Nm
	5 lb_f-in. ... 7 lb_f-in.

Dimensions

Width	6.2 mm
Height	80 mm
Depth	94 mm

Material specifications

Color	gray (RAL 7042)
Flammability rating according to UL 94	V0 (Housing)

Environmental and real-life conditions

Ambient conditions

Degree of protection (Relay)	RT III (Relay)
Degree of protection (Relay base)	IP20 (Relay base)
Degree of protection (Installation location)	≥ IP54 (Installation location)
Ambient temperature (operation)	-40 °C ... 70 °C (see to derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C

Approvals

CE

Certificate	CE-compliant

UKCA

Certificate	UKCA-compliant

Shipbuilding approval

Certificate	TAE0000196

Corrosive gas test

Identification	ISA-S71.04. G3 Harsh Group
	EN 60068-2-60

UL data

Ambient temperature (operation)	-40 °F ... 158 °F
Note	Use copper cables approved for at least 75 °C.

DNV GL data

Temperature	D
Humidity	A
Vibration	B/C
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

EMC data

Low Voltage Directive	Conformance with Low Voltage Directive
Electromagnetic compatibility	Conformance with EMC directive

Standards and regulations

Standards/regulations	IEC 60947-5-1

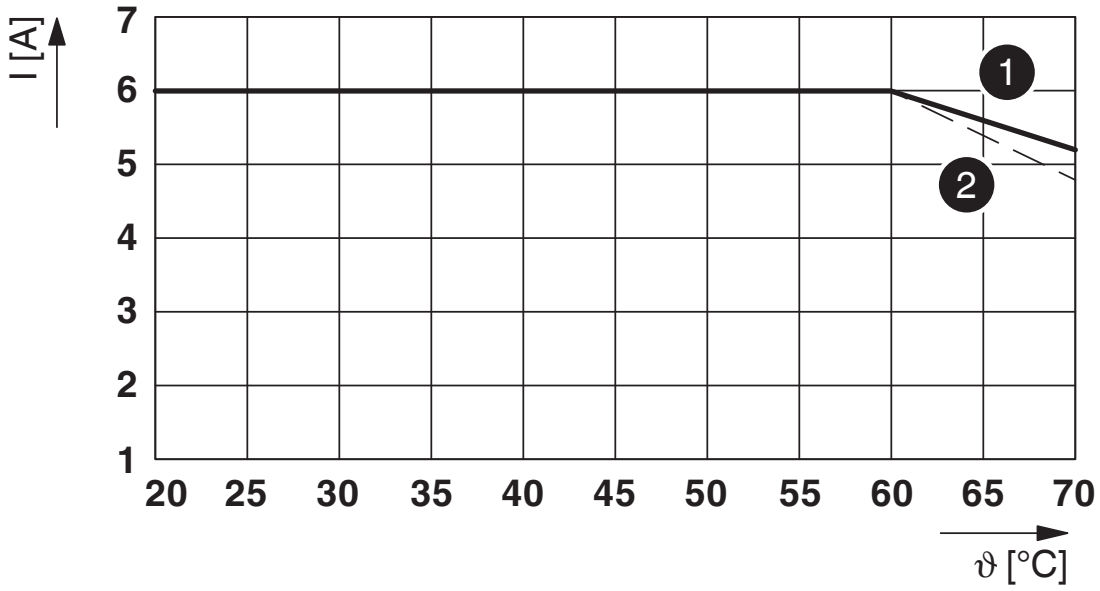
Mounting

Mounting type	DIN rail mounting

Assembly note	in rows with zero spacing
Mounting position	any

Drawings

Diagram

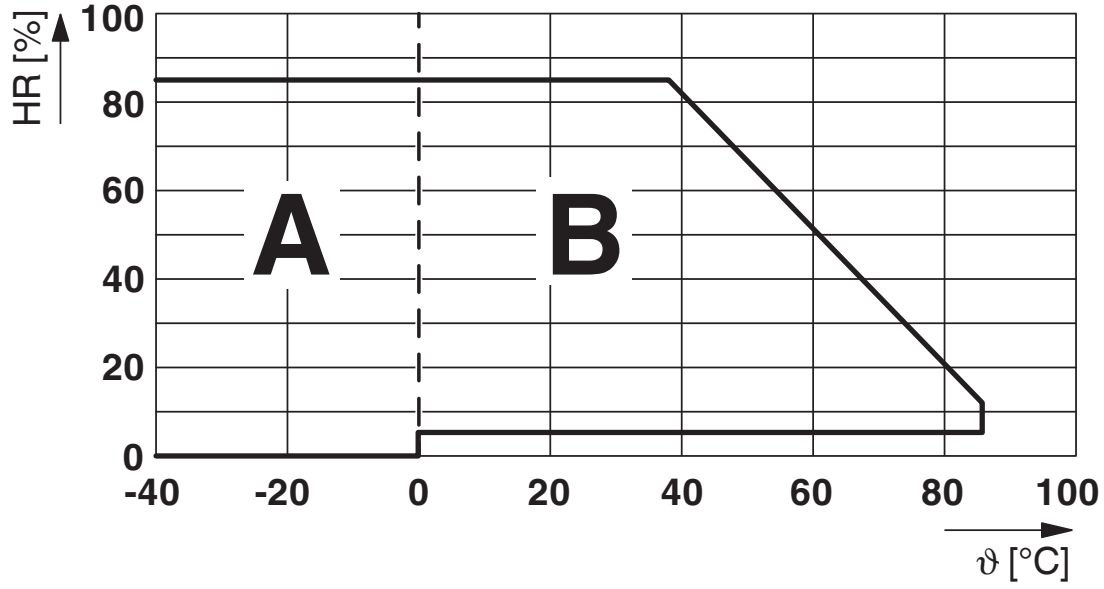


Limiting continuous current per contact for 0.85 ... 1.1 U_N (contact-side)

(1) Limiting continuous current for horizontal installation position without clearance

(2) Limiting continuous current for vertical installation position without clearance

Diagram

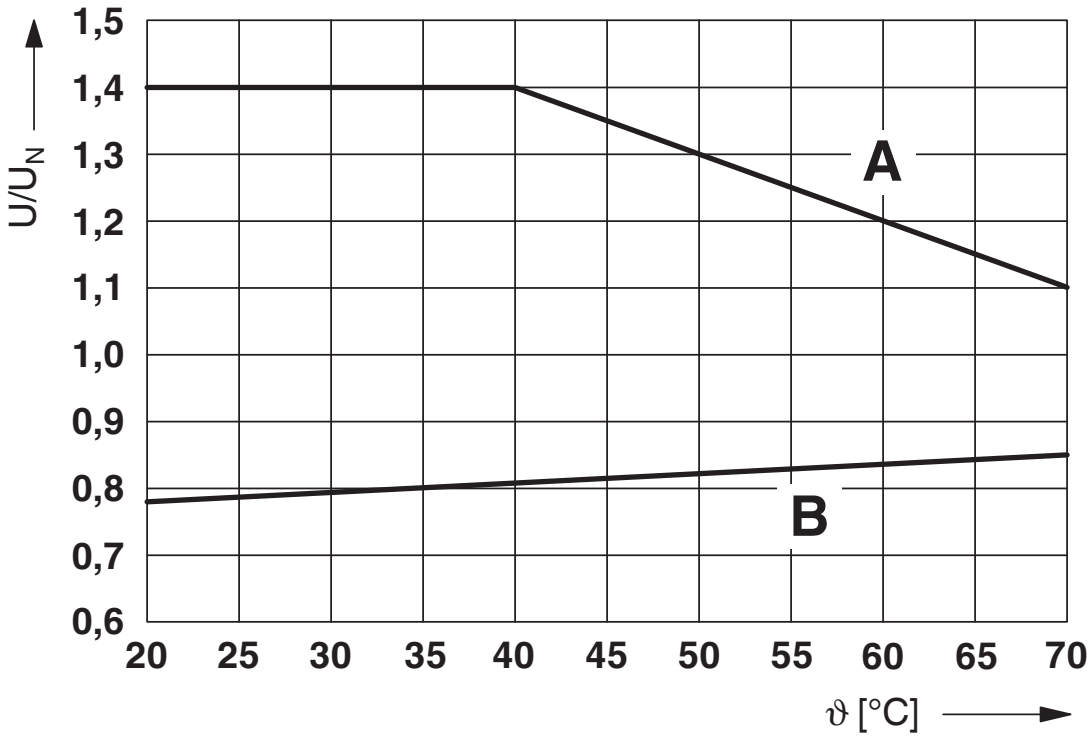


Permissible humidity for operation and storage.
The maximum permissible ambient temperature as specified in the data sheet must be observed.

Area A: Ice buildup at ambient temperatures ≤ 0°C must be prevented
Area B: Condensation at ambient temperatures > 0°C must be prevented

On 30 full days that are naturally distributed across an entire year, a humidity level of 95% is permissible at an ambient temperature ≤ 25°C.

Diagram



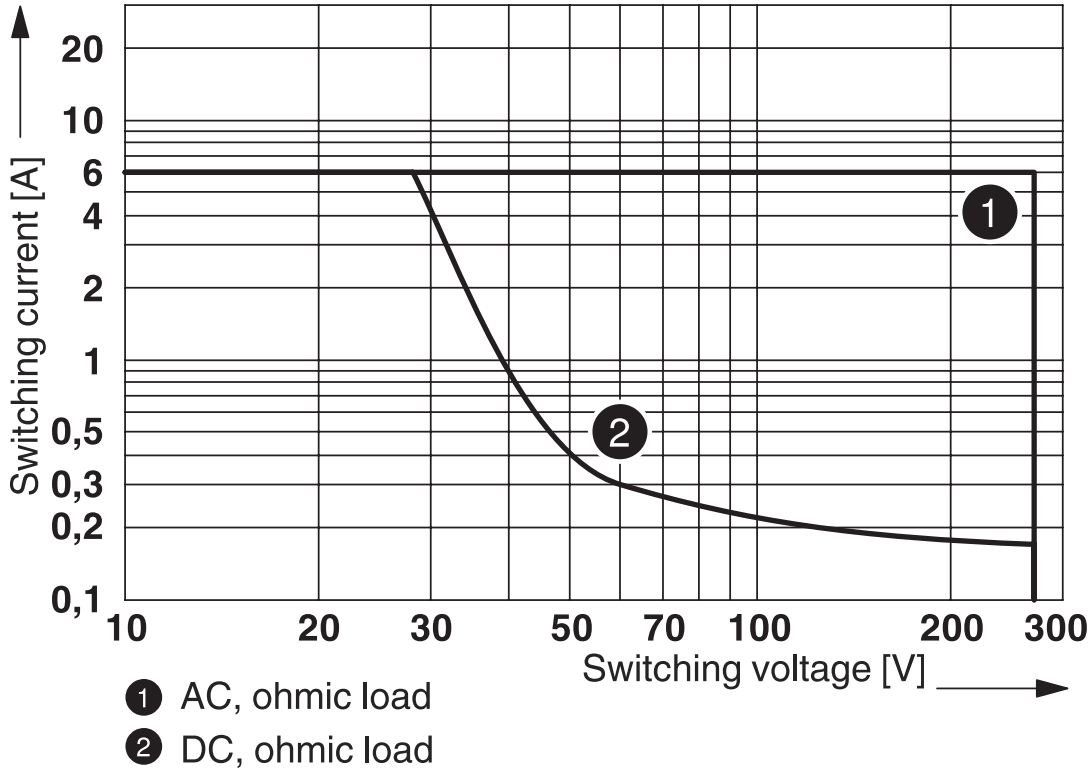
Curve A

Maximum permissible continuous voltage U_{max} with limiting continuous current on the contact side (see relevant technical data)

Curve B

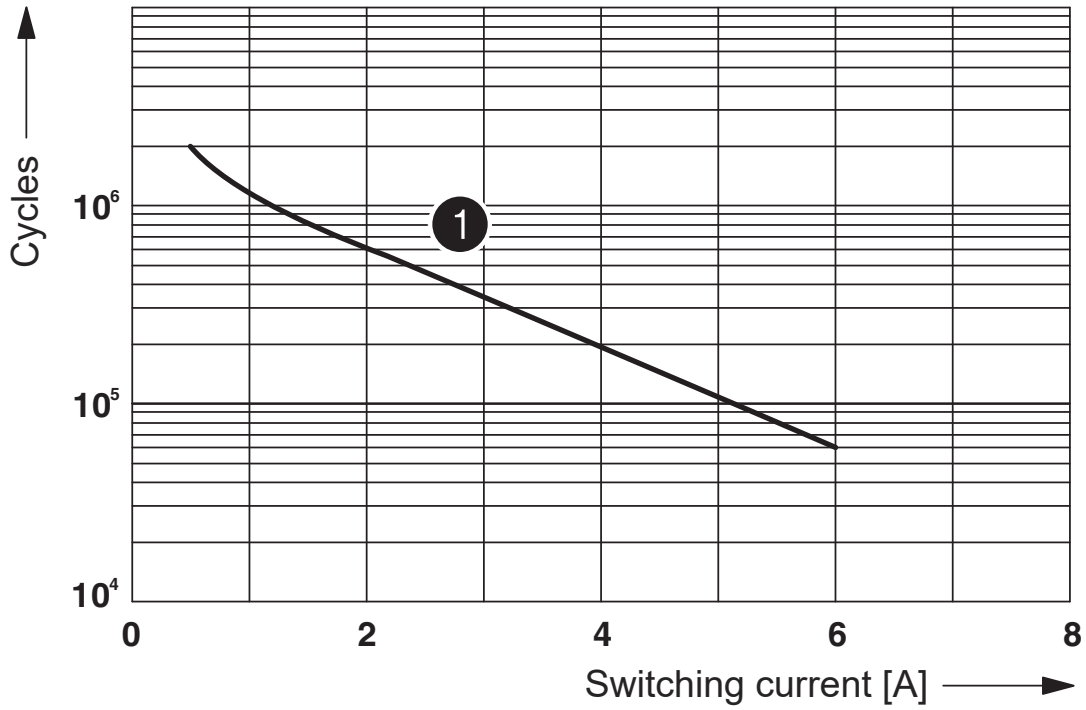
Minimum permissible operate voltage U_{op} after pre-excitation (see relevant technical data)

Diagram



Interrupting rating

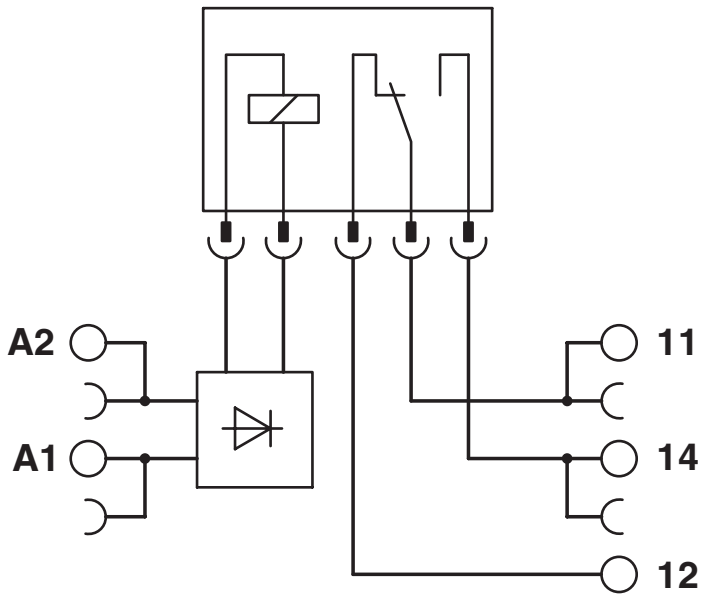
Diagram



1 250 V AC, ohmic load

Electrical service life

Circuit diagram



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2966171

cUL Recognized
Approval ID: FILE E 238705

UL Recognized
Approval ID: FILE E 238705

EAC
Approval ID: TR_TS_D_00573_c

DNV GL
Approval ID: TAE0000196

EAC
Approval ID: RU*C-DE.*08.B.00010

UL Listed
Approval ID: FILE E 172140

cUL Listed
Approval ID: FILE E 172140

cULus Listed
Approval ID: E140324

cULus Recognized

cULus Listed

Classifications

ECLASS

ECLASS-11.0	27371601
ECLASS-12.0	27371601
ECLASS-13.0	27371601

ETIM

ETIM 9.0	EC001437

UNSPSC

UNSPSC 21.0	39122300

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Hexahydromethylphthalic anhydride(CAS: n/a)
	Lead(CAS: 7439-92-1)
SCIP	20094ffa-eb95-4291-a21b-4463d52fab42

EF3.0 Climate Change

CO2e kg	0.335 kg CO2e

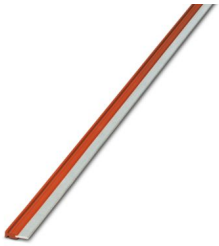
Accessories

Note: Applying some accessories below might limit this product.

FBST 500-PLC RD - Continuous plug-in bridge

2966786

https://www.phoenixcontact.com/us/products/2966786



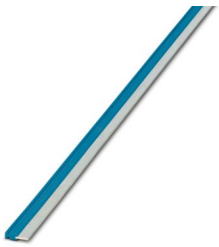
Continuous plug-in bridge, length: 500 mm, color: red

Max. current carrying capacity: 32 A

FBST 500-PLC BU - Continuous plug-in bridge

2966692

https://www.phoenixcontact.com/us/products/2966692



Continuous plug-in bridge, length: 500 mm, color: blue

Max. current carrying capacity: 32 A

FBST 500-PLC GY - Continuous plug-in bridge

2966838

https://www.phoenixcontact.com/us/products/2966838

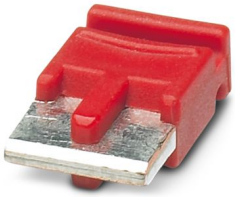
Continuous plug-in bridge, length: 500 mm, color: gray

Max. current carrying capacity: 32 A

FBST 6-PLC RD - Single plug-in bridge

2966236

https://www.phoenixcontact.com/us/products/2966236



Single plug-in bridge, number of positions: 2, length: 6 mm, color: red

Max. current carrying capacity: 6 A

FBST 6-PLC BU - Single plug-in bridge

2966812

https://www.phoenixcontact.com/us/products/2966812

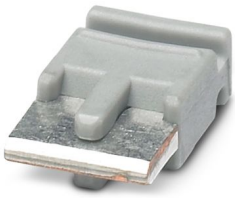
Single plug-in bridge, number of positions: 2, length: 6 mm, color: blue

Max. current carrying capacity: 6 A

FBST 6-PLC GY - Single plug-in bridge

2966825

https://www.phoenixcontact.com/us/products/2966825



Single plug-in bridge, number of positions: 2, length: 6 mm, color: gray

Max. current carrying capacity: 6 A

FBST 8-PLC GY - Single plug-in bridge

2967688

https://www.phoenixcontact.com/us/products/2967688

Single plug-in bridge, number of positions: 2, length: 8 mm, color: gray

Max. current carrying capacity: 6 A

PLC-V8/FLK14/OUT - System connection

2295554

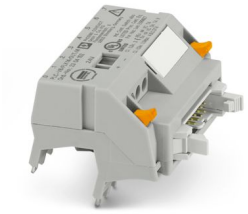
https://www.phoenixcontact.com/us/products/2295554

V8 adapter for 8 x PLC-INTERFACE (6.2 mm), controller: PLC system cabling of output cards, connection 1: IDC/FLK pin strip 1x 14-position, connection 2: Plug-in connection (Can be snapped onto 8x PLC-INTERFACE terminals), connection 3: Screw connection 1x 2-position, number of channels: 8, control logic: positive switching

PLC-V8/FLK14/OUT/M - System connection

2304102

https://www.phoenixcontact.com/us/products/2304102

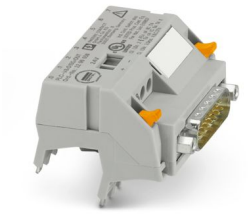


V8 adapter for 8 x PLC-INTERFACE (6.2 mm), controller: PLC system cabling of output cards, connection 1: IDC/FLK pin strip 1x 14-position, connection 2: Plug-in connection (Can be snapped onto 8x PLC-INTERFACE terminals), connection 3: Screw connection 1x 2-position, number of channels: 8, control logic: minusschaltend

PLC-V8/D15S/OUT - System connection

2296058

https://www.phoenixcontact.com/us/products/2296058

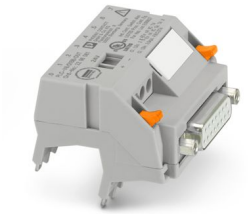


V8 adapter for 8 x PLC-INTERFACE (6.2 mm), controller: PLC system cabling of output cards, connection 1: D-SUB pin strip 1x 15-position, connection 2: Plug-in connection (Can be snapped onto 8x PLC-INTERFACE terminals), connection 3: Screw connection 1x 2-position, number of channels: 8, control logic: positive switching

PLC-V8/D15B/OUT - System connection

2296061

https://www.phoenixcontact.com/us/products/2296061



V8 adapter for 8 x PLC-INTERFACE (6.2 mm), controller: PLC system cabling of output cards, connection 1: D-SUB socket strip 1x 15-position, connection 2: Plug-in connection (Can be snapped onto 8x PLC-INTERFACE terminals), connection 3: Screw connection 1x 2-position, number of channels: 8, control logic: positive switching

PLC-FA-5X20 - Fuse adapter

1186510

https://www.phoenixcontact.com/us/products/1186510

Safety plug adapter for use on a 6.2 mm PLC basic terminal block. For 5 x 20 mm fuses. Operating voltage: Universal. Without fuse failure indication.

PLC-FA-I-5X20-12-24UC - Fuse adapter

1186499

https://www.phoenixcontact.com/us/products/1186499

Safety plug adapter for use on a 6.2 mm PLC basic terminal block. For 5 x 20 mm fuses. Operating voltage: 12 ... 24 V AC/DC. With LED for fuse failure indication.

PLC-FA-I-5X20-120-230UC - Fuse adapter

1186508

https://www.phoenixcontact.com/us/products/1186508

Safety plug adapter for use on a 6.2 mm PLC basic terminal block. For 5 x 20 mm fuses. Operating voltage: 120 ... 230 V AC/DC. With LED for fuse failure indication.

PLC-V8C/PT-24DC/RS485 - Controller

1452919

https://www.phoenixcontact.com/us/products/1452919

PLC logic basic module with RS-485 connection for Modbus/RTU communication, with 16 I/Os, for plug-in connection to 8 digital or analog PLC-INTERFACE terminal blocks, can be extended to 48 I/Os, real-time clock, micro USB female connector, accommodates memory module and Bluetooth adapter, Push-in connection

PLC-V8C/SC-24DC/EM - Extension module

2903095

https://www.phoenixcontact.com/us/products/2903095

PLC logic extension module with 16 I/Os, for plug-in connection to eight PLC-INTERFACE terminal blocks for extending the basic module (a maximum of two extension modules can be connected to a basic module), screw connection

PLC-V8C/PT-24DC/EM - Extension module

2905137

https://www.phoenixcontact.com/us/products/2905137

PLC logic extension module with 16 I/Os, for plug-in connection to eight PLC-INTERFACE terminal blocks for extending the basic module (a maximum of two extension modules can be connected to a basic module), Push-in connection

PLC-V8C/PT-24DC/SAM2 - Controller

2907443

https://www.phoenixcontact.com/us/products/2907443

PLC logic stand-alone module, Generation 2, with 16 I/Os, for plug-in connection to eight digital or analog PLC-INTERFACE terminal blocks, cannot be extended, real-time clock, micro USB female connector, accommodates memory module and Bluetooth adapter, Push-in connection

PLC-V8C/SC-24DC/SAM2 - Controller

2907445

https://www.phoenixcontact.com/us/products/2907445

PLC logic stand-alone module, Generation 2, with 16 I/Os, for plug-in connection to eight digital or analog PLC-INTERFACE terminal blocks, cannot be extended, real-time clock, micro USB female connector, accommodates memory module and Bluetooth adapter, screw connection

PLC-V8C/PT-24DC/BM2 - Controller

2907446

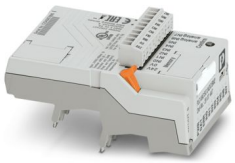
https://www.phoenixcontact.com/us/products/2907446

PLC logic basic module, Generation 2, with 16 I/Os, for plug-in connection to eight digital or analog PLC-INTERFACE terminal blocks, can be extended to 48 I/Os, real-time clock, micro USB female connector, accommodates memory module and Bluetooth adapter, Push-in connection

PLC-V8C/SC-24DC/BM2 - Controller

2907447

https://www.phoenixcontact.com/us/products/2907447



PLC logic basic module, Generation 2, with 16 I/Os, for plug-in connection to eight digital or analog PLC-INTERFACE terminal blocks, can be extended to 48 I/Os, real-time clock, micro USB female connector, accommodates memory module and Bluetooth adapter, screw connection

ZB 6:UNBEDRUCKT - Zack marker strip

1051003

https://www.phoenixcontact.com/us/products/1051003

Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

ZB 6 CUS - Zack marker strip

0824992

https://www.phoenixcontact.com/us/products/0824992

Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

ZB 6,LGS:FORTL.ZAHLEN - Zack marker strip

1051016

https://www.phoenixcontact.com/us/products/1051016

Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

ZB 6,QR:FORTL.ZAHLEN - Zack marker strip

1051029

https://www.phoenixcontact.com/us/products/1051029

Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 6. 15 x 10.5 mm, Number of individual labels: 10

ZB 6,LGS:GLEICHE ZAHLEN - Zack marker strip

1051032

https://www.phoenixcontact.com/us/products/1051032

Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: Identical numbers 1 or 2, etc. up to 100, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

ZB 6,LGS:L1-N,PE - Marker for terminal blocks

1051414

https://www.phoenixcontact.com/us/products/1051414

Marker for terminal blocks, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, horizontal: L1, L2, L3, N, PE, L1, L2, L3, N, PE, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

ZB 6,LGS:U-N - Marker for terminal blocks

1051430

https://www.phoenixcontact.com/us/products/1051430

Marker for terminal blocks, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: U, V, W, N, GND, U, V, W, N, GND, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10. 5 mm, Number of individual labels: 10

UC-TM 6 - Marker for terminal blocks

0818085

https://www.phoenixcontact.com/us/products/0818085

Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

UC-TM 6 CUS - Marker for terminal blocks

0824589

https://www.phoenixcontact.com/us/products/0824589

Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

UCT-TM 6 - Marker for terminal blocks

0828736

https://www.phoenixcontact.com/us/products/0828736

Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 60

UCT-TM 6 CUS - Marker for terminal blocks

0829602

https://www.phoenixcontact.com/us/products/0829602

Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 60

NS 35/ 7,5 PERF 2000MM - DIN rail perforated

0801733

https://www.phoenixcontact.com/us/products/0801733

DIN rail perforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver

NS 35/ 7,5 UNPERF 2000MM - DIN rail, unperforated

0801681

https://www.phoenixcontact.com/us/products/0801681

DIN rail, unperforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver

NS 35/ 7,5 WH PERF 2000MM - DIN rail perforated

1204119

https://www.phoenixcontact.com/us/products/1204119

DIN rail perforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: silver

NS 35/ 7,5 WH UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1204122

https://www.phoenixcontact.com/us/products/1204122

DIN rail, unperforated, Pack of 10 (20 m), acc. to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: silver

NS 35/ 7,5 AL UNPERF 2000MM - DIN rail, unperforated

0801704

https://www.phoenixcontact.com/us/products/0801704

DIN rail, unperforated, Pack of 25 (50 m), acc. to EN 60715, material: Aluminum, uncoated, Standard profile, color: silver

NS 35/ 7,5 ZN PERF 2000MM - DIN rail perforated

1206421

https://www.phoenixcontact.com/us/products/1206421

DIN rail perforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, galvanized, Standard profile, color: silver

NS 35/ 7,5 ZN UNPERF 2000MM - DIN rail, unperforated

1206434

https://www.phoenixcontact.com/us/products/1206434

DIN rail, unperforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, galvanized, Standard profile, color: silver

NS 35/ 7,5 CU UNPERF 2000MM-VPE 10 - DIN rail, unperforated

0801762

https://www.phoenixcontact.com/us/products/0801762

DIN rail, unperforated, Pack of 10 (20 m), acc. to EN 60715, material: Copper, uncoated, Standard profile, color: copper-colored

NS 35/ 7,5 CAP - End cap

1206560

https://www.phoenixcontact.com/us/products/1206560

DIN rail end piece, for DIN rail NS 35/7.5

NS 35/15 PERF 2000MM - DIN rail perforated

1201730

https://www.phoenixcontact.com/us/products/1201730

DIN rail perforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver

NS 35/15 UNPERF 2000MM - DIN rail, unperforated

1201714

https://www.phoenixcontact.com/us/products/1201714

DIN rail, unperforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver

NS 35/15 WH PERF 2000MM - DIN rail perforated

0806602

https://www.phoenixcontact.com/us/products/0806602

DIN rail perforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: white

NS 35/15 WH UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1204135

https://www.phoenixcontact.com/us/products/1204135

DIN rail, unperforated, Pack of 10 (20 m), similar to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: silver

NS 35/15 AL UNPERF 2000MM - DIN rail, unperforated

1201756

https://www.phoenixcontact.com/us/products/1201756

DIN rail, unperforated, similar to EN 60715, material: Aluminum, uncoated, Standard profile, color: silver

NS 35/15 ZN PERF 2000MM - DIN rail perforated

1206599

https://www.phoenixcontact.com/us/products/1206599

DIN rail perforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, galvanized, Standard profile, color: silver

NS 35/15 ZN UNPERF 2000MM - DIN rail, unperforated

1206586

https://www.phoenixcontact.com/us/products/1206586

DIN rail, unperforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, galvanized, Standard profile, color: silver

NS 35/15 CU UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1201895

https://www.phoenixcontact.com/us/products/1201895

DIN rail, unperforated, Pack of 10 (20 m), similar to EN 60715, material: Copper, uncoated, Standard profile, color: copper-colored

NS 35/15 CAP - End cap

1206573

https://www.phoenixcontact.com/us/products/1206573

DIN rail end piece, for DIN rail NS 35/15

NS 35/15-2,3 UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1201798

https://www.phoenixcontact.com/us/products/1201798

DIN rail, unperforated, Pack of 10 (20 m), acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile 2.3 mm, color: silver

PLC-ATP BK - Separating plate

2966841

https://www.phoenixcontact.com/us/products/2966841

Separating plate, 2 mm thick, required at the start and end of a PLC terminal strip. Furthermore, it is used for: visual separation of groups, safe isolation of different voltages of neighboring PLC relays in acc. with DIN VDE 0106-101, isolation

PLC-ESK GY - Power terminal block

2966508

https://www.phoenixcontact.com/us/products/2966508

Power terminal block, for the input of up to four potentials, for mounting on NS 35/7.5

SZF 1-0,6X3,5 - Screwdriver

1204517

https://www.phoenixcontact.com/us/products/1204517

Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

PLC-RSC- 24DC/21 - Relay Module

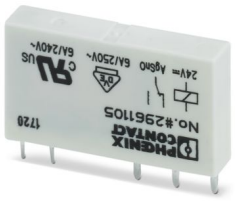
2966171

https://www.phoenixcontact.com/us/products/2966171

REL-MR- 24DC/21 - Single relay

2961105

https://www.phoenixcontact.com/us/products/2961105



Plug-in miniature power relay, with power contact, 1 changeover contact, input voltage 24 V DC

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com

TRT-10A230V-NC | mechanical

> CONTACT US

Fandis thermostats provide a reliable solution for accurate temperature control in protecting sensitive electronic components. Available with normally closed, normally open or change-over contacts, these mechanical regulators are used with ventilation or heating products to keep the desired thermal conditions inside the enclosure.

Technical data		
APPROVALS		
Approvals	CE; cURus; UKCA	
ELECTRICAL DATA		
Rated Voltage	60	V d.c.
Rated Voltage	110-250	V a.c.
Rated Current	10	A
Operating Voltage	12-60	V d.c.
Appliance Class	II	
Max Contact Current	15	A
GENERIC DATA		
Contact Type	NC / Open on rise	
Sensor Type	Bi-Metal	
Casing Material	PA66 UL94 V-0	
RAL Number	7035	
Setting Range	-10÷80 14÷176	°C °F
Setting Resolution	5 41	°C °F
Accuracy	± 3	K
Rated Hysteresis	7	K
Life Expectancy	100000	Cycles
Electrical Connection	Terminal Block	

TRT-10A230V-NC | mechanical

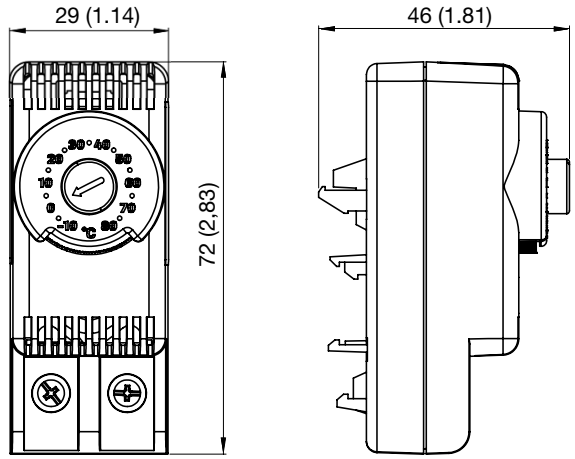
> CONTACT US

Technical data		
Wires Section	0.75-2.5	mm^2
Wires Section	18-14	AWG
Fixing System	DIN rail	
ENVIRONMENTAL AND THERMAL DATA		
IP Protection Degree	IP20	
Operating Temperature	-10÷80 14÷176	°C °F
Storage Temperature	-40÷90 -40÷194	°C °F
Max Humidity	90	% RH
UL DATA		
UL File Number Recognized Component	E247491	
UL Environmental Type Rating	Open Type	
UL Ambient Temperature	50 122	°C °F

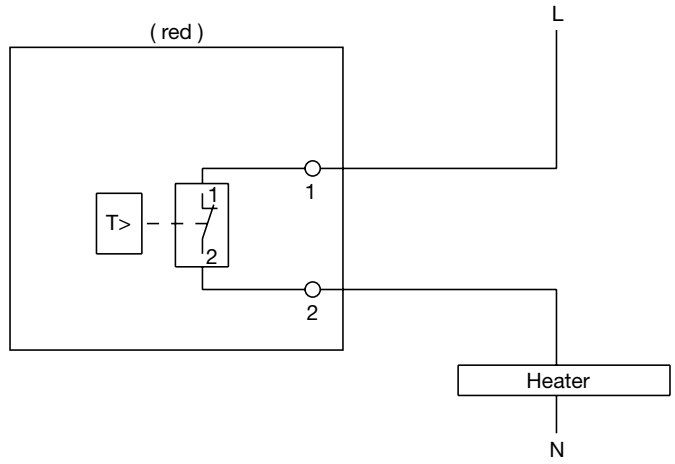
TRT-10A230V-NC | mechanical

> CONTACT US

Technical drawing mm (in)



Wiring Diagram



TRT-10A230V-NO | mechanical

> CONTACT US

Fandis thermostats provide a reliable solution for accurate temperature control in protecting sensitive electronic components. Available with normally closed, normally open or change-over contacts, these mechanical regulators are used with ventilation or heating products to keep the desired thermal conditions inside the enclosure.

Technical data		
APPROVALS		
Approvals	CE; cURus; UKCA	
ELECTRICAL DATA		
Rated Voltage	60	V d.c.
Rated Voltage	110-250	V a.c.
Rated Current	10	A
Operating Voltage	12-60	V d.c.
Appliance Class	II	
Max Contact Current	15	A
GENERIC DATA		
Contact Type	NO / Close on rise	
Sensor Type	Bi-Metal	
Casing Material	PA66 UL94 V-0	
RAL Number	7035	
Setting Range	-10÷80 14÷176	°C °F
Setting Resolution	5 41	°C °F
Accuracy	± 3	K
Rated Hysteresis	7	K
Life Expectancy	100000	Cycles
Electrical Connection	Terminal Block	

TRT-10A230V-NO | mechanical

> CONTACT US

Technical data		
Wires Section	0.75-2.5	mm^2
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IP Protection Degree	IP20	
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Max Humidity	90	% RH
UL DATA		
UL File Number Recognized Component	E247491	
UL Environmental Type Rating	Open Type	
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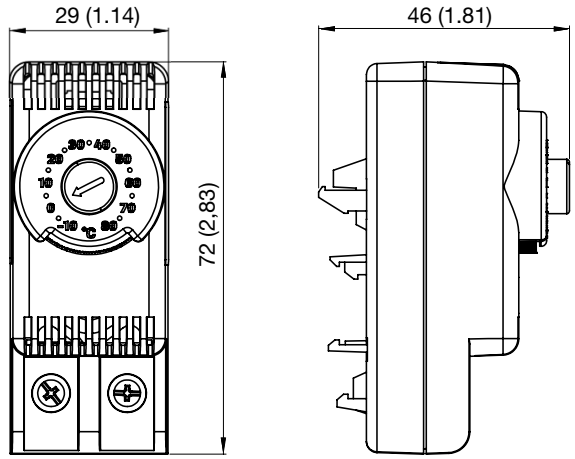
TRT-10A230V-NO | mechanical

> CONTACT US

Technical drawing mm (in)



Wiring Diagram