

# PLC-OSC- 24DC/TTL - Solid-state relay module



2982728

<https://www.phoenixcontact.com/us/products/2982728>

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PLC solid-state relay with screw connection, for mounting on DIN rail NS 35/7.5, input: 24 V DC, output: TTL (5 V DC)

## Your advantages

- 6.2 mm narrow design width
- Screw and spring-cage connection
- Resistant to vibrations and shocks
- Status indicator
- Bridging options
- Integrated protection circuit
- Switching power TTL (5 V), fan out = 1

## Commercial data

Item number	2982728
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	C461
Product key	CK6223
Catalog page	Page 416 (C-5-2019)
GTIN	4046356170604
Weight per piece (including packing)	34.51 g
Weight per piece (excluding packing)	30 g
Customs tariff number	85364190
Country of origin	DE

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## Technical data

### Product properties

Product type	Solid-state relay module
Product family	PLC-INTERFACE
Application	TTL signal at output
Operating mode	100% operating factor

### Insulation characteristics

Insulation	Basic insulation
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### Insulation characteristics: Air clearances and creepage distances between the power circuits

Insulation	Basic insulation
Overvoltage category	III
Pollution degree	2

### Electrical properties

Maximum power dissipation for nominal condition	0.08 W
Test voltage (Input/output)	2.5 kV <sub>rms</sub> (50 Hz, 1 min., input/output)

### Air clearances and creepage distances between the power circuits

Rated insulation voltage	250 V DC
Rated surge voltage	4 kV

### Input data

Rated actuating voltage $U_C$	24 V DC
Voltage range with reference to $U_C$	0.8 ... 1.2
Rated actuating current $I_C$	3.4 mA
Switching threshold "0" signal in reference to $U_N$	< 0.4
Switching threshold "1" signal in reference to $U_N$	> 0.8
Typical input current at $U_N$	3.4 mA
Typical response time	35 $\mu$ s
Typical turn-off time	35 $\mu$ s
Operating voltage display	Yellow LED
Protective circuit	Reverse polarity protection; Parallel polarity protection diode
	Surge protection
Surge voltage protection	> 33 V
Transmission frequency	1 kHz

### Output data

Designation	Output data
Contact switching type	1 N/O contact
Design of digital output	electronic
Contact connection type	Signal contact
Rated control circuit supply voltage $U_S$	5 V DC

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Voltage range with reference to $U_S$	0.9 ... 1.2
Output voltage range	4.5 V DC ... 6 V DC
Limiting continuous current	50 mA (a TTL load (Fan out = 1))
Fan out	1
Surge voltage protection	> 8 V
Voltage drop at max. limiting continuous current	< 80 mV
Output circuit	3-conductor, ground-referenced
Protective circuit	Reverse polarity protection; Parallel polarity protection diode Surge protection

## Connection data

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section rigid	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (Single ferrule) 2x 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (TWIN ferrule)
Conductor cross section AWG	26 ... 14
Tightening torque	0.45 Nm ... 0.55 Nm (Usually these terminal blocks must be supported during conductor connection (held by one hand, supported on the housing))

## Dimensions

Width	6.2 mm
Height	80 mm
Depth	95 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	IP20
Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

## Approvals

### Corrosive gas test

Identification	ISA-S71.04. G3 Harsh Group EN 60068-2-60
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## Standards and regulations

# PLC-OSC- 24DC/TTL - Solid-state relay module



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Air clearances and creepage distances between the power circuits

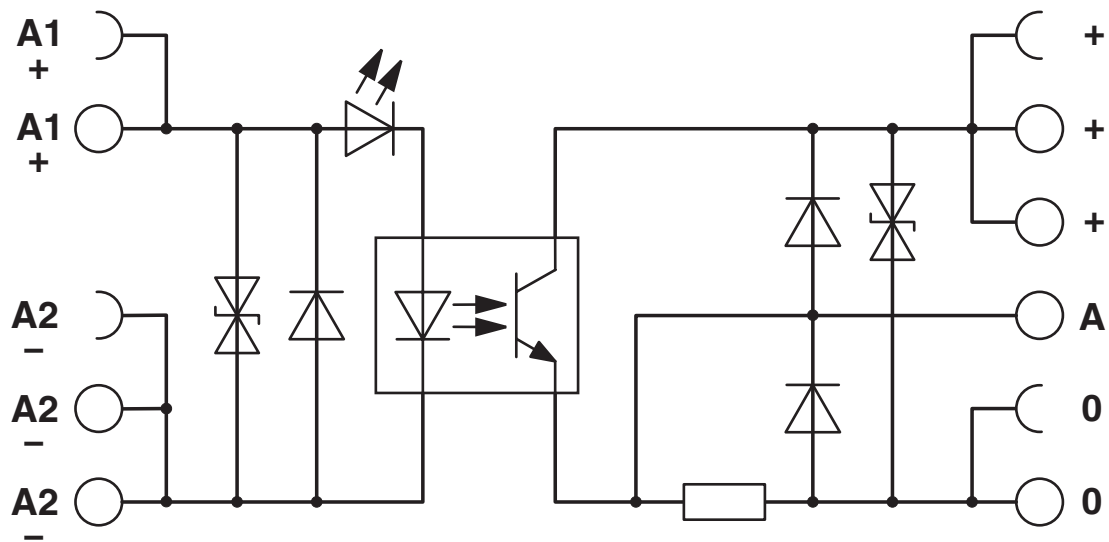
Standards/regulations	IEC 60947-5-1
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## Mounting

Mounting type	DIN rail mounting
Assembly note	in rows with zero spacing
Mounting position	any

## Drawings

Circuit diagram



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## Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2982728>




**cUL Recognized**  
Approval ID: FILE E 238705




**UL Recognized**  
Approval ID: FILE E 238705



**EAC**  
Approval ID: TR\_TS\_D\_00573\_c



**UL Listed**  
Approval ID: FILE E 172140



**cUL Listed**  
Approval ID: FILE E 172140



**cULus Listed**  
Approval ID: E140324

**cULus Recognized**

**cULus Listed**

# PLC-OSC- 24DC/TTL - Solid-state relay module



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## Classifications

### ECLASS

ECLASS-11.0	27371604
ECLASS-12.0	27371604
ECLASS-13.0	27371604

### ETIM

ETIM 9.0	EC001504
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### UNSPSC

UNSPSC 21.0	39122300
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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.)	Lead(CAS: 7439-92-1)
SCIP	ab4f4702-1e37-43e4-8dde-45a9720c9169



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## Accessories

**i** 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>



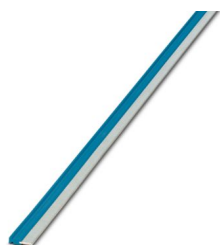
Continuous plug-in bridge, length: 500 mm, color: red

**i** 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

**i** Max. current carrying capacity: 32 A

# PLC-OSC- 24DC/TTL - Solid-state relay module



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## 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

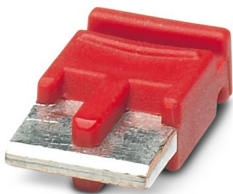
 Max. current carrying capacity: 32 A

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## 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

# PLC-OSC- 24DC/TTL - Solid-state relay module



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## 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

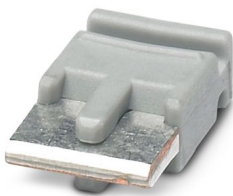
 Max. current carrying capacity: 6 A

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## 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

# PLC-OSC- 24DC/TTL - Solid-state relay module



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## 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

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## 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-OSC- 24DC/TTL - Solid-state relay module



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<https://www.phoenixcontact.com/us/products/2982728>

## 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

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## 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-OSC- 24DC/TTL - Solid-state relay module

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## 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

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## 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-OSC- 24DC/TTL - Solid-state relay module



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## 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

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## 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

# PLC-OSC- 24DC/TTL - Solid-state relay module



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## 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

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## 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



# PLC-OSC- 24DC/TTL - Solid-state relay module



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## 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

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## 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

# PLC-OSC- 24DC/TTL - Solid-state relay module



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## 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

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## 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

# PLC-OSC- 24DC/TTL - Solid-state relay module

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## 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

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## 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

# PLC-OSC- 24DC/TTL - Solid-state relay module

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## 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



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## 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

# PLC-OSC- 24DC/TTL - Solid-state relay module



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## 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

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## 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

# PLC-OSC- 24DC/TTL - Solid-state relay module



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## 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

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## 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

# PLC-OSC- 24DC/TTL - Solid-state relay module



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## 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

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## 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

# PLC-OSC- 24DC/TTL - Solid-state relay module



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## 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

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## NS 35/15 CAP - End cap

1206573

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

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





# PLC-OSC- 24DC/TTL - Solid-state relay module



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## 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

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## 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-OSC- 24DC/TTL - Solid-state relay module

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## 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

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## 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

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