

MINI MCR-SL-R-UI - Resistance/potiposition transducer



2864095

<https://www.phoenixcontact.com/pc/products/2864095>

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MCR potiposition transducer for conversion of potentiometer positions into a standard analog signal, 0 Ω input... 100 Ω to 0 k Ω ... 100 k Ω

Product description

The narrow 6.2 mm MINI MCR-SL-R-UI... potiposition transducer converts potentiometer positions into a standard analog signal on a percentage basis. If the potentiometer range cannot be utilized to the full, an externally accessible slide switch is used to set the upper and lower potentiometer final values. The output signal between 0% and 100% is based on this set final value.

The DIP switches, which can be accessed on the side of the housing, are used to configure the following parameters:

- Output signal
- Automatic potentiometer detection
- Wire-break detection slider
- Type of error evaluation

Power (19.2 V DC to 30 V DC) can either be supplied via the connection terminal blocks of the modules or in conjunction with the DIN rail connector.

Your advantages

- Power supply possible via the foot element (TBUS)
- Automatic potentiometer detection without manual adjustment
- Error indication via diagnostic LED and analog signal
- For 100 Ω to 100 k Ω potentiometers
- potentiometer signals to create standard signals
- Configurable measuring range and output signals
- Highly-compact potentiometer transducer for electrical isolation, conversion, amplification, and filtering of
- Input and output signals can be configured via DIP switches
- 3-way isolation
- A potentiometer sub-range can be linearized via the "teach-in" switch on the device

Commercial data

Item number	2864095
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DK1139
GTIN	4046356046442
Weight per piece (including packing)	98.2 g
Weight per piece (excluding packing)	73.17 g
Customs tariff number	85437090

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Country of origin	DE
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Technical data

Notes

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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Product properties

Product type	Potiposition transducer
Product family	MINI Analog
No. of channels	1
Configuration	DIP switches

Insulation characteristics

Overvoltage category	II
Pollution degree	2

System properties

Functionality

Configuration	DIP switches
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Electrical properties

Maximum power dissipation for nominal condition	235.5 mW
Step response (0–99%)	< 30 ms
Maximum temperature coefficient	< 0.02 %/K
Temperature coefficient, typical	< 0.02 %/K
Maximum transmission error	< 0.2 %

Electrical isolation Input/output/power supply

Rated insulation voltage	30 V AC
	50 V DC
Test voltage	1.5 kV AC (50 Hz, 60 s)
Insulation	Basic insulation in accordance with IEC/EN 61010

Supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (The DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, item no. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail in accordance with EN 60715)
Typical current consumption	< 25 mA (at 24 V DC)
Power consumption	< 500 mW

Input data

Signal: Resistance

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Number of inputs	1
Resistance range	100 Ω ... 100 k Ω
Reference voltage source	< 3.6 V

Output data

Signal: Voltage/current

Number of outputs	1
Voltage output signal	0 V ... 5 V
	1 V ... 5 V
	0 V ... 10 V
	10 V ... 0 V
Max. voltage output signal	12.5 V
Open-circuit voltage	$\approx$  V
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
	20 mA ... 0 mA
	20 mA ... 4 mA
Max. current output signal	23 mA
Short-circuit current	$\approx$  mA
Load/output load voltage output	> 10 k Ω
Load/output load current output	< 500 Ω (20 mA)
Ripple	< 20 mV _{PP} (500 Ω)
	< 20 mV _{PP} (10 k Ω)
Behavior in the event of a sensor error	0 % ... 105 % (configurable)

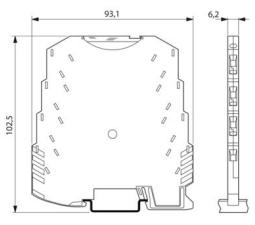
Connection data

Connection method	Screw connection
Stripping length	12 mm
Screw thread	M3
Conductor cross-section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross-section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross-section AWG	26 ... 12

Signaling

Error indication	Red LED
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Dimensions

Dimensional drawing	
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Width	6.2 mm
Height	93.1 mm
Depth	101.2 mm

Material specifications

Color	green (RAL 6021)
Housing material	PBT
Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 2

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant
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UL, USA/Canada

Identification	UL 508 Recognized
	Class I, Div. 2, Groups A, B, C, D T4

Shipbuilding approval

Certificate	DNV GL TAA000020N
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Shipbuilding data

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

EMC data

Electromagnetic compatibility	Conformance with EMC directive
Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.

Noise emission

Standards/regulations	EN 61000-6-4
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Electromagnetic HF field

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	5 %

Fast transients (burst)

Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	5 %

Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	5 %

Mounting

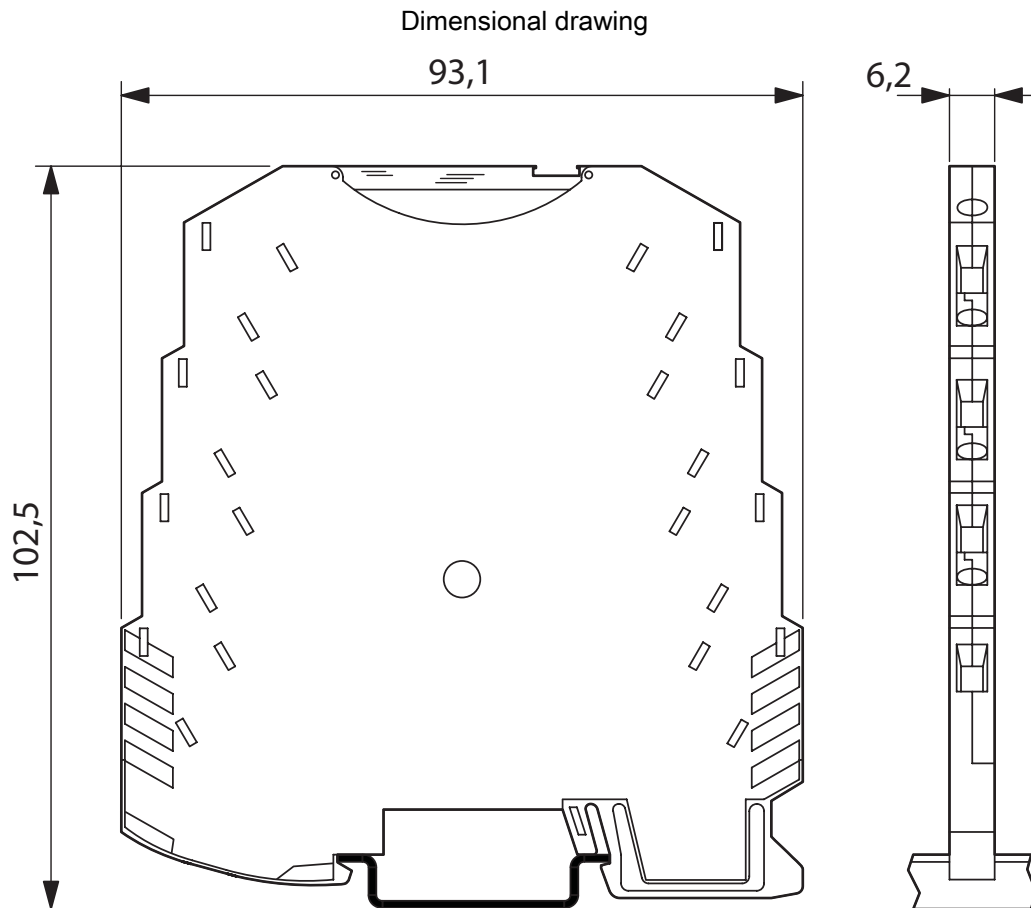
Mounting type	DIN rail mounting
Mounting position	any

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Drawings

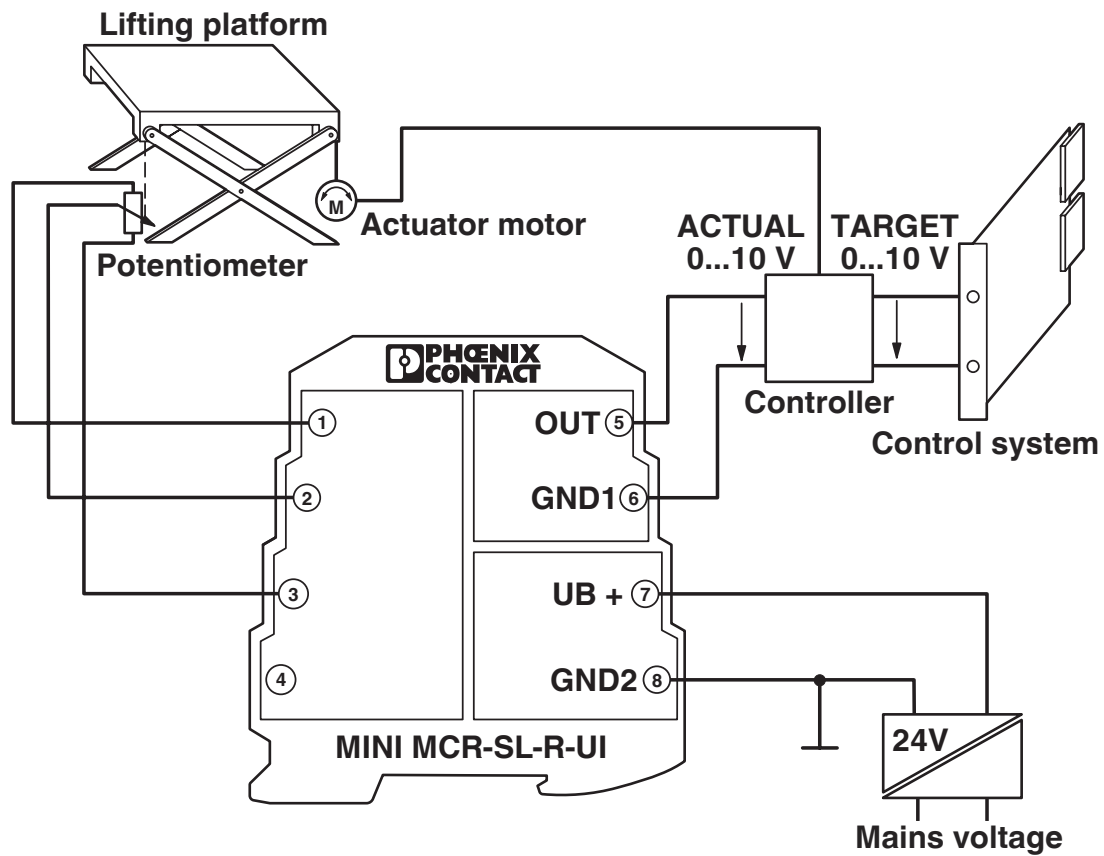


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Application drawing



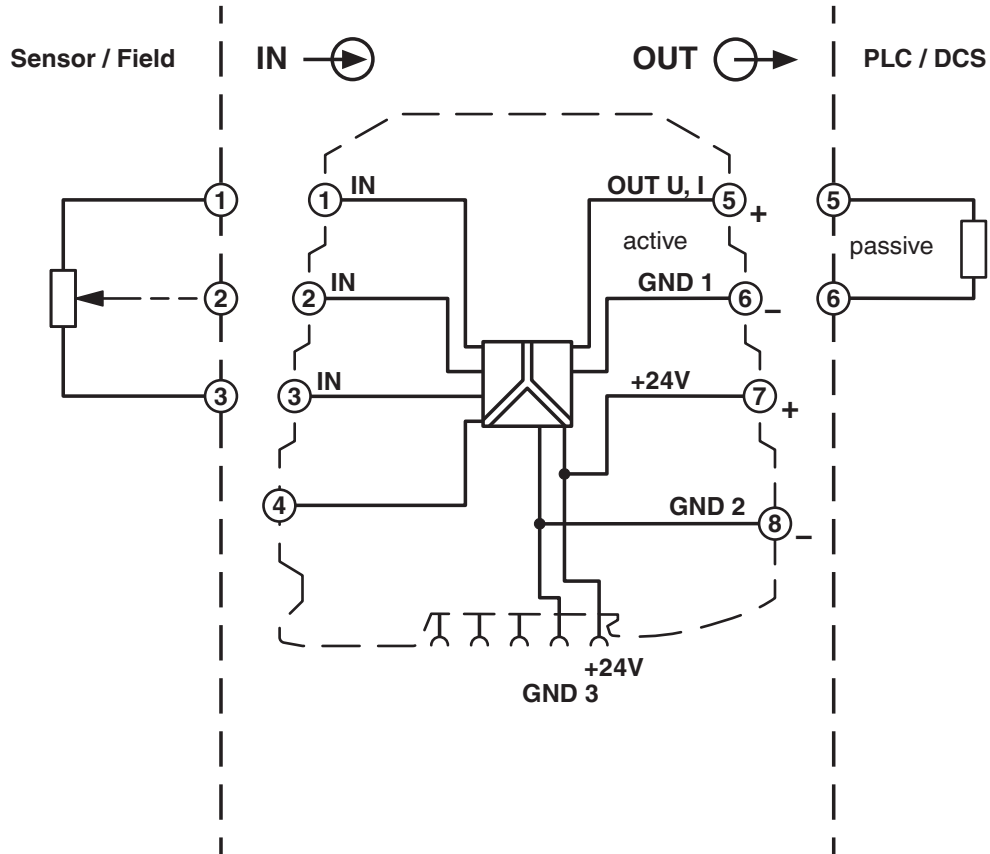
Height adjustment of a lifting platform with setpoint and actual value control

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Block diagram



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/2864095>



cUL Recognized
Approval ID: E238705



UL Recognized
Approval ID: E238705

DNV

Approval ID: TAA000020N



UL Recognized
Approval ID: E238705



cUL Recognized
Approval ID: E238705

DNV

Approval ID: TAA000020N



cUL Listed
Approval ID: E199827



UL Listed
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Classifications

ECLASS

ECLASS-13.0	27210120
ECLASS-15.0	27210120

ETIM

ETIM 9.0	EC002653
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UNSPSC

UNSPSC 21.0	39121000
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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: n/a)
SCIP	728d3133-0d2b-401b-88b2-a6f9bc2420c9

EF3.0 Climate Change

CO2e kg	21.805 kg CO2e
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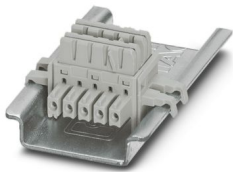
<https://www.phoenixcontact.com/pc/products/2864095>

Accessories

ME 6,2 TBUS-2 1,5/5-ST-3,81 GY - DIN rail bus connector

2695439

<https://www.phoenixcontact.com/pc/products/2695439>

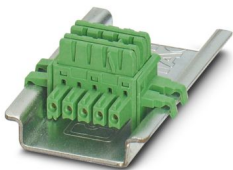


DIN rail bus connector (TBUS), 5-pos., for bridging the supply voltage, can be snapped onto NS 35/... DIN rail in accordance with EN 60715

ME 6,2 TBUS-2 1,5/5-ST-3,81 GN - DIN rail bus connector

2869728

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DIN rail bus connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

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TC-D37SUB-AIO16-M-PS-UNI - Module carrier

2902934

<https://www.phoenixcontact.com/pc/products/2902934>



Universal termination carrier for connecting 16 MINI Analog signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection), with HART multiplexer connection

TC-D37SUB-ADIO16-M-P-UNI - Module carrier

2902933

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Universal termination carrier for connecting 16 MINI Analog signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection)

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MINI MCR-SL-PTB - Power terminal block

2864134

<https://www.phoenixcontact.com/pc/products/2864134>



MCR power terminal block for supplying several MINI Analog modules via the DIN rail connector, with screw connection, maximum current consumption of up to 2 A

QUINT4-SYS-PS/1AC/24DC/2.5/SC - Power supply

2904614

<https://www.phoenixcontact.com/pc/products/2904614>



Primary-switched power supply, QUINT POWER, screw connection, DIN rail mounting, supply of devices possible via the TBUS DIN rail connector, protective coating, input: single-phase, output: 24 V DC/2.5 A

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SZS 0,6X3,5 - Screwdriver

1205053

<https://www.phoenixcontact.com/pc/products/1205053>



Actuation tool, for ST terminal blocks, insulated, 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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