MCR-SL-S-...00-U(I)-(LP)

Current Measuring Transducer for Sinusoidal and Non-Sinusoidal Alternating Currents



INTERFACE

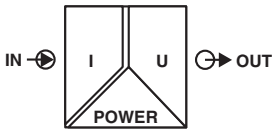
Data Sheet

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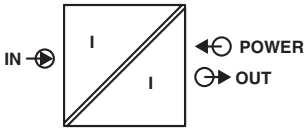
Description

The **MCR-SL-S-...** current measuring transducers provide the user with the opportunity of retrofitting the current measuring transducer in an existing system without interruption. This is made possible by an open up coil that functions on the Rogowski principle. Insulated conductors on the primary side with a diameter of up to 18.5 mm can be embraced. The current measuring transducers are electrically isolated from one another on the input and output side.

The **MCR-SL-S-...-U** current measuring transducers convert sinusoidal and non-sinusoidal alternating currents up to 400 A into analog standard signals of 0...5 V or 0...10 V. The measuring ranges for input and output can be selected via a switch.



The **MCR-SL-S-...-I-LP** current measuring transducers convert sinusoidal and non-sinusoidal alternating currents up to 400 A into the analog standard signal of 4...20 mA. The measuring range at the output is set with a switch. On the output side, the current measuring transducers are operated in a 4...20 mA current loop, which simultaneously provides the power supply for the modules, which is necessary for signal conversion.



Make sure you always use the latest documentation.
It can be downloaded at www.download.phoenixcontact.com.

A conversion table is available on the Internet at
www.download.phoenixcontact.com/general/7000_en_00.pdf.

This data sheet is valid for all products listed on the following page:

Ordering Data

Description	Type	Order No.	Pcs./Pkt
MCR current measuring transducer, for measuring sinusoidal and non-sinusoidal alternating currents, input current 0...100 A, output voltage 0...(5) 10 V	MCR-SL-S-100-U	2813457	1
MCR current measuring transducer, for measuring sinusoidal and non-sinusoidal alternating currents, input current 0...200 A, output voltage 0...(5) 10 V	MCR-SL-S-200-U	2813460	1
MCR current measuring transducer, for measuring sinusoidal and non-sinusoidal alternating currents, input current 0...400 A, output voltage 0...(5) 10 V	MCR-SL-S-400-U	2813473	1
MCR current measuring transducer, for measuring sinusoidal and non-sinusoidal alternating currents, input current 0...100 A, loop-powered output with 4...20 mA	MCR-SL-S-100-I-LP	2813486	1
MCR current measuring transducer, for measuring sinusoidal and non-sinusoidal alternating currents, input current 0...200 A, loop-powered output with 4...20 mA	MCR-SL-S-200-I-LP	2813499	1
MCR current measuring transducer, for measuring sinusoidal and non-sinusoidal alternating currents, input current 0...400 A, loop-powered output with 4...20 mA	MCR-SL-S-400-I-LP	2813509	1

Technical Data

General Data	MCR-SL-S-...-U	MCR-SL-S-...-I-LP
Supply voltage	20 V DC ... 30 V DC	
Current consumption	< 30 mA	–
Transmission error	< ±1% of end value	
Cable position error	< 0.63%	
Temperature coefficient	< 0.035%/K	< 0.025%/K
Step response (10% ... 90%)	< 340 ms	
Degree of protection	IP20	
Test voltage	5 kV, 50 Hz, 1 min.	
Ambient temperature range	-20°C ... +60°C	
Dimensions (W x H x D)	55 mm x 67 mm x 85 mm	
Conductor cross section	0.2 mm^2 ... 2.5 mm^2	
Housing design	Polyamide PA non-reinforced, green	
Electromagnetic compatibility	CE compliant	

Input	MCR-SL-S-100...	MCR-SL-S-200...	MCR-SL-S-400...
Input current	0 A AC ... 100 A AC	0 A AC ... 200 A AC	0 A AC ... 400 A AC
Measuring range	0 A ... 50/75/100 A	0 A ... 100/150/200 A	0 A ... 200/300/400 A
Response threshold	1% of end value		
Frequency range	30 Hz ... 6000 Hz		
Curve type	Sinusoidal and non-sinusoidal		
Overload capacity (continuous)	No limitation		
Surge strength (for 1 s)	No limitation		
Connection method	Clamp-on cable design for 18.5 mm ∅ (insulated conductor)		

Output	MCR-SL-S-...-U	MCR-SL-S-...-I-LP
Output signal	0 V ... (5)10 V	4 mA ... 20 mA
Max. output signal	7 V (0...5 V); 14 V (0...10 V)	25 mA
Load	≥ 10 kΩ	(U_B - 12 V) / 20 mA

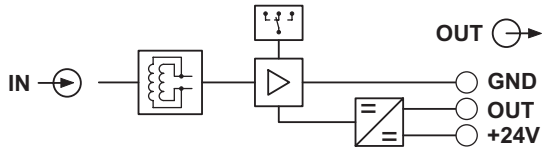
Approvals	
UL/C-UL Listed UL 508	Yes
UL/C-UL Listed UL 1604 Class I, Division 2	In preparation

Features

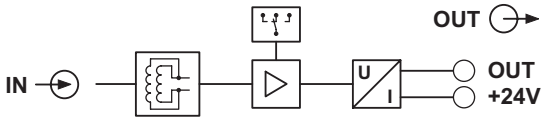
- Can be retrofitted with the open up Rogowski coil
- Choice of voltage or current output
- Measuring range selection with slide switch
- True r.m.s. value measurement from 30 Hz ... 6000 Hz
- Clamp-on cable design for 18.5 mm ∅ (insulated conductor)

Block Diagrams

MCR-SL-S-...00-U



MCR-SL-S-...00-I-LP



Current Measurement

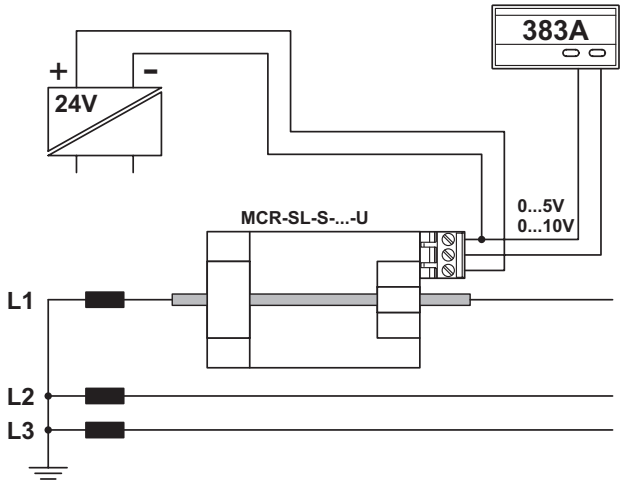


Figure 1 Current measurement

Current Monitoring

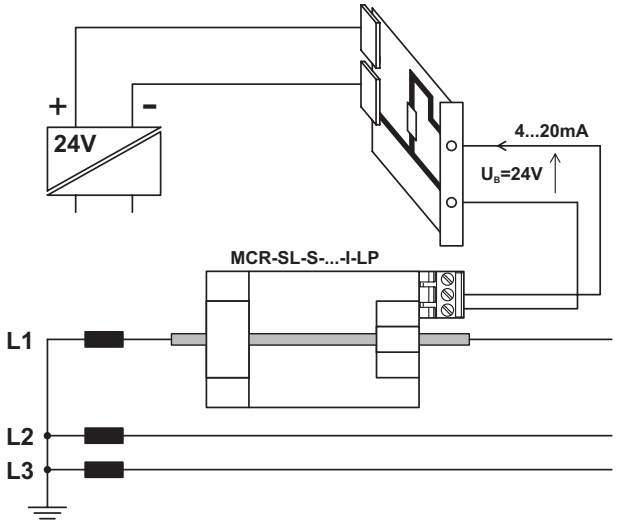


Figure 2 Current monitoring

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