



CLI22S/CLI22D

Loop Powered High Level Signal Isolators

CLI22S is a DIN rail, loop powered (passive) signal isolator for DC currents with a transfer ratio 1:1. The isolation level is 4000 VAC.

CLI22D is a dual channel version of CLI22S, with the same technical specification. The two channels are fully independent.

CLI22D allows for high density mounting with 70 loops per meter.

Loop powered isolators are effective tools to separate connected current loops or to break ground loops.

Thanks to the high isolation, CLI22S and CLI22D also provide excellent protection against voltage spikes arising from thunderstorms, motor starters etc.



Main features

High isolation – 4000 VAC

- High level isolation between connected measurement loops.
- Elimination of ground loops.
- Excellent filtering of voltage spikes.

Loop powered

- No external power supply required.

Accurate measurements

- Total accuracy 0.1 %.
- Long-term stability 0.1 %/year (typical).
- Excellent EMC performance.

Space saving and simple mounting

- CLI22D provides high-density mounting with up to 70 loops per meter.
- Quick mounting on DIN rail.

5 year limited warranty

Description

CLI22S and CLI22D is the single and dual channel version respectively of the loop powered isolators CLI22.

CLI22 is inserted in current loops with up to 50 mA signals. The output is identical to the input signal, i.e. the transfer ratio is 1:1. The isolator has no adjustments and is shipped ready to use.

CLI22 does not require any power supply, since the power needed for operation is taken from the current loop.

The output is galvanically isolated from the input with an isolation test voltage of 4000 VAC, 1 minute.

Before installing CLI22 in a current loop, it is important to check, that the voltage drop over the isolator is not too big for the loop. See diagram.

The compact housing snaps onto a 35 mm DIN rail and is equipped with robust terminals for easy and safe wire connections. Especially with the dual version, CLI22D, a high-density and cost effective installation can be achieved.

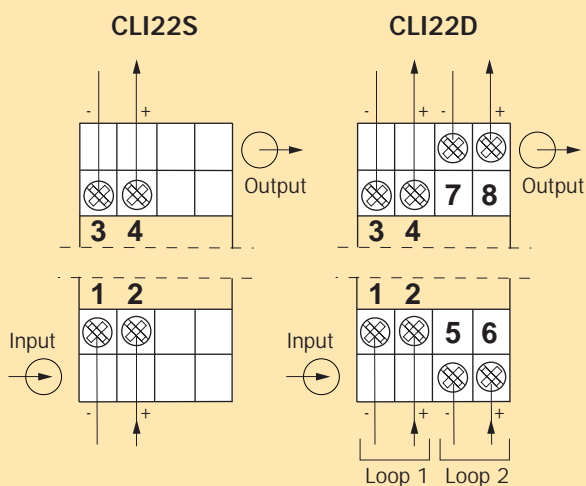
CLI22S and CLI22D are covered by a 5 year limited warranty.

Specifications (for CLI22D, per loop)

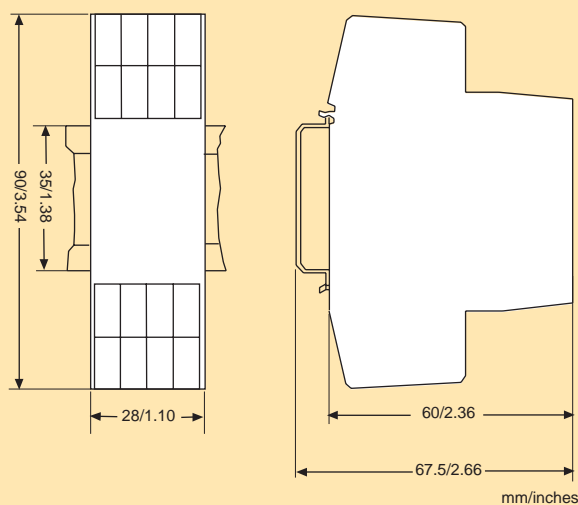
Input	
Current	0/4-20 mA, Max. 50 mA
Voltage drop, see <i>diagram</i>	$I \times R_{\text{Load}} + 3V$
Max. permissible voltage	15V
Output	
Current	0/4 - 20 mA, Max. 50 mA (Output = Input)
Permissible load	600 Ω @ 20 mA, 240 Ω @ 50 mA
Temperature	
Ambient storage	-40 to +70 °C / -40 to +158 °F
Ambient operating	-25 to +70 °C / -13 to +158 °F
General Data	
Isolation, input/output	4000 VAC, 1 min
Response time 10-90%	0.1 s
Humidity (non-condensing)	0 to 95 %RH
Power supply	
Supply voltage	Not necessary. Powered by the current loop.
Accuracy	
Total accuracy	$\pm 0.1\% ^{1)}$ @ $R_{\text{LOAD}} = 250\ \Omega$
Temperature influence	$\pm 0.125\% / 25\ ^\circ\text{C}$ / $0.14\% / 50\ ^\circ\text{F} ^{1)}$
Load influence	$\pm 0.1\% / 100\ \Omega ^{1)}$
RFI influence, 0.15-1000 MHz, 10 V or V/m	$\pm 0.1\%$ (typical) ¹⁾
Long-term stability	$\pm 0.1\%$ / year (typical) ¹⁾
Housing	
Material / Flammability (UL)	PC/VO
Mounting	Rail acc. to DIN EN 50022, 35 mm
Connection, single / stranded wires	$\leq 2.5\ \text{mm}^2$, AWG 14
Weight CLI22S	100 g
Weight CLI22D	150 g
Protection, housing / terminals	IP 40 / IP 20

¹⁾ Of nominal span 20 mA**The User Instructions must be read prior to installation.**

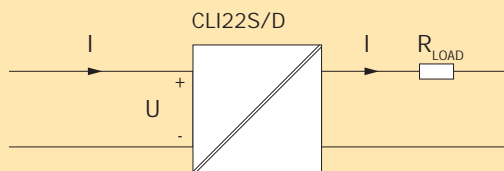
Connections



Dimensions



Voltage drop



$$U = I \times R_{LOAD} + 3 \text{ (V)}$$

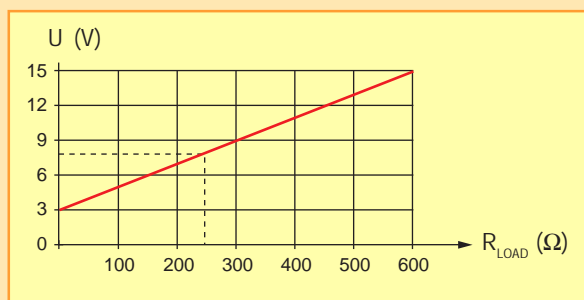
Example: $R_{LOAD} = 250\Omega$, $I = 20 \text{ mA}$

$$U = 0.02 \times 250 + 3 = 8 \text{ V}$$

See diagram

Important:

The voltage drop, U, must not exceed 15 V.



Voltage drop, U, relative to load, R_{LOAD} , at 20 mA current.

Ordering table

Isolator	Part No.
CLI22S	70CLI22S01
CLI22D	70CLI22D01

