



SERIAL LINK GATEWAY

EN 50155
RS-422 (RS-485) / CURRENT LOOP



The Serial Link Gateway (SLG) product range is a comprehensive range of field-bus communication converters for on-board railway applications. This product family range is fully compliant with EN 50155 standard.

Designed and manufactured by Leroy Automation, the SLG_002 converts an RS-422 communication port into a 20mA Current Loop interface without interfering with format of transmitted data.

DIMENSIONS

- 35 x 105 x 115 mm (W x H x D)

INTERFACES

The converter features one SUB DB-9 connector for the RS-422 connection, one SUB DB-9 connector for the Current Loop network and screw terminals for the +24Vdc power supply.

This device uses Rx+, Rx-, Tx+, Tx- signals for operating.

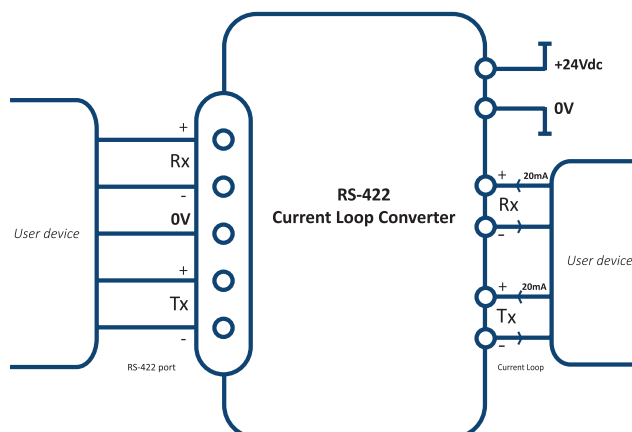


APPLICATIONS

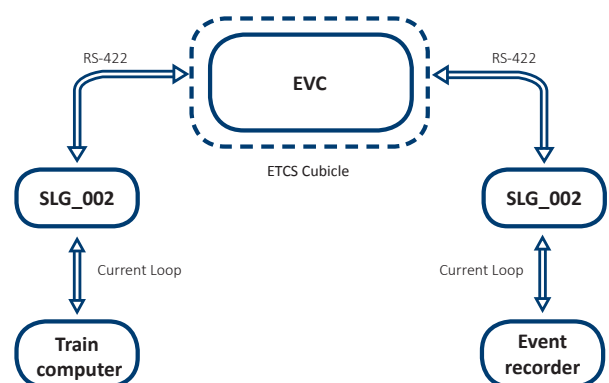
This RS-422/Current loop converter is EN 50155-compliant, and it is ideally suited for on-board rolling stock and train communication architectures.

- Train Control and Monitoring System (TCMS)
- On-board signalling
- New and overhaul projects

FUNCTIONAL BLOCK DIAGRAM



TYPICAL USER CASE



GENERAL SPECIFICATIONS

POWER SUPPLY	+24Vdc Train battery compliant (EN 50155) 2-pole screw
INTERFACES	1x RS-422 port (DB9-female type) - EIA/TIA-485 and EIA/TIA-422 1x 0-20mA Current loop port (DB9-male type) - Active Rx/Tx configuration mode
DATA TRANSMISSION	Asynchronous, full duplex - Bidirectional communication interface - Speed : 1,200 bauds in full duplex mode - Data format : 1 start bit, 8 data bit, 1 parity bit, ODD parity and 1 stop bit
LEDS	2 LEDs : Power-on, Run Mode 4 LEDs : Rx/Tx signals for the RS422 and Current Loop
ISOLATION	Galvanic isolation (data transmission) Transformer (power supply) Electrical isolation: 1kVac-500Vac (EN 50155-Insulating test : Criterion A)
MECHANICAL	35mm DIN-Rail mounting (symmetrical TS35)

STANDARDS	EN 50155 :2007 EN 45545:2013 (HL3)
TEMPERATURE	Operation from -40°C to +70°C (Class Tx) Storage : -40°C
HUMIDITY	0-95% HR non-condensing
SALT MIST	ST4 (96 hours)
ALTITUDE	Up to 1400m (Class A1)
PROTECTION	IP40
DIMENSIONS	35mm x 105mm x 115mm (W x H x D)
POWER CONSUMPTION	<10W
WEIGHT	0,4Kg
MTBF	1,000,000 Hours
LIFE SPAN	30 years
WARRANTY	24 months return-to-depot from delivery date

ENVIRONMENTAL QUALIFICATION TESTS

EMC6 TESTS

NF EN 61000-4-2	2009	ESD	Enclosure contact : ±6kV Enclosure air : ±8kV	Criterion A
NF EN 61000-4-3	2011	Immunity Radiated RFI	80MHz ... 1GHz : 20V/m 1.4GHz ... 2.1GHz : 10V/m 2.1GHz ... 2.5GHz : 5V/m	Criterion A
NF EN 61000-4-4	2010	Burst	±2kV direct	Criterion A
NF EN 61000-4-5	2007	Surge	±2kV common ±1kV differential	Criterion A
NF EN 61000-4-6	2009	Immunity conducted RFI	10Vrms	Criterion A
NF EN 61000-4-29 NF EN 61000-4-5 NF EN 50155		Power supply variations	Voltage dips, short interruptions and variation	Criterion A
NF EN 55011	2011	Conducted emissions Radiated emissions	150kHz ... 500kHz 500kHz ... 30MHz 30MHz ... 230MHz 230MHz ... 1GHz	99dBµV 93dBµV 40dBµV/m at 10m 47dBµV/m at 10m
NF EN 50121-1	2006	Railway applications/EMC		

MECHANICAL TESTS

NF EN 61 373	2011	Railway applications/Rolling stock equipment/Shock and vibration tests	50m/s ² XYZ-30 ms 7.9m/s ² XYZ-5 hours	Criterion A
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CLIMATIC TESTS

NF EN 60068-2-1	2007	Cold storage	-40°C 16 hours	Criterion A
NF EN 60068-2-1	2007	Cold start (Ab)	-40°C	Criterion A
NF EN 60068-2-2	2007	Dry heat (Bb)	+70°C	Criterion A
NF EN 60068-2-30	2007	Damp test (Db)	+55°C 95% humidity 48 hours	Criterion A
NF EN 50155	2007	Salt mist	96 hours	Criterion A