Surge protection for data and information signal transmission

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Hz in Hearts

HDSP RS485/422

- Two-stage surge protection of connected RS485/422 bus device in Full-Duplex configuration.
- They are installed prior to the protected equipment and at the interface of LPZs 1 – 2 and higher.
- They increase the EMC level of the connected equipment against switching and atmospheric transients tested according to IEC 61000-4-2 (ESD level 4), IEC 61000-4-4 (EFT level 4) and IEC 61000-4-5 (shock pulse level X = 6 kV).
- The connection of the module allows to use the operating range of bus drivers according to the TIA/EIA-485-A standard in the range of -7 V to +12 V (common-mode voltage range).

- Connecting the module allows you to use the full 10 Mbps bus speed according to the TIA/EIA-485-A or TIA/EIA-422-B standard.
- High-speed current protection of data line X1-2, X3-4, X5-6, X7-8 200 mA.
- For extended protection of the common reference wire and bus shielding, use the additional mudule 1GDT/70.

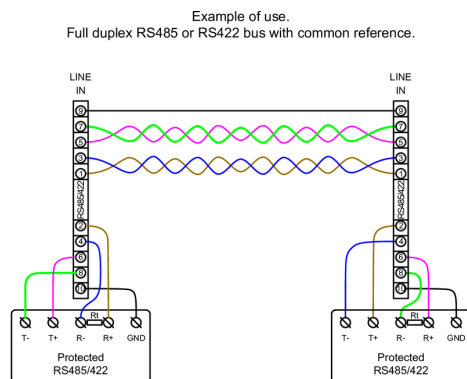| Type		HDSP RS485/422
Testing category according to IEC 61643-21:2000 and EN 61643-21:2001		C2, C3, B3
Number of pairs		2
Connector type		Screw terminals
Maximum continuous operating voltage DC of data line X1-9, X3-9, X5-9, X7-9	U_C	-7 ÷ 12 V
Rated load current of data line X1-2, X3-4, X5-6, X7-8	I_L	0.2 A
Data link current protection at 25 °C	I_{trip}	0.2 A
Max. response time for data link protection	t_{block}	1 µs
C2 Nominal discharge current (8/20)	I_n	5 kA
C2 Voltage protection level X2-10, X4-10, X6-10, X8-10 at $+I_n$	U_P	20 V
C2 Voltage protection level X2-10, X4-10, X6-10, X8-10 at $-I_n$	U_P	-12 V
C2 Voltage protection level X2-4, X6-8 at I_n	U_P	26 V
C3 Voltage protection level X2-10, X4-10, X6-10, X8-10 at +1 kV/µs	U_P	17 V
C3 Voltage protection level X2-10, X4-10, X6-10, X8-10 at -1 kV/µs	U_P	-10 V
C3 Voltage protection level X2-4, X6-8 at 1 kV/µs	U_P	25 V
Serial resistance of data line X1-2, X3-4, X5-6, X7-8	R	8.6 Ω
Capacitance X2-4, X6-8 at 0 V	C	40 pF
Limiting transmission frequency S21 for Z_0 = 120 Ω	f_C	50 MHz
Lightning protection zone		LPZ 1-2, LPZ 2-3
Housing material		Polyamid PA6, UL94 V-0
Degree of protection		IP20
Operating temperature	ϑ	-40 ÷ 70 °C
Clamp fastening range (solid conductor)		0.2 ÷ 4 mm^2
Tightening moment		0,5 Nm
Installation		On DIN rail 35 mm
Operating position		Any
Remote signalling		No

Type		HDSP RS485/422
Modular design		No
Designed according to standards		
Requirements and test methods for SPDs connected to telecommunications and signalling networks		IEC 61643-21:2000
Safety of Flammability of Plastic Materials		UL 94
Application standards		
Protection against lightning		IEC 62305:2010
Ordering, packaging and additional data		
Mass	m	68 g
Mass (including the packaging)	m	85 g
Packaging dimensions (H x W x D)		52 x 108 x 83 mm
Packaging value	V	0.47 dm^3
ETIM group		EG000021
ETIM class		EC000943
Customs tariff no.		85363010
EAN code		8590681185803
Art. number		**56 056**

The link in the QR code leads to the online presentation of the **HDSP RS485/422**. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit **www.hakel.com**

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Application wiring diagram (installation)

Example of use.
Full duplex RS485 or RS422 bus with common reference.

Internal diagram

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