

## HDSP RS485

- Two-stage surge protection of connected RS485 bus device in Half-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 standard.
- High-speed current protection of data line X1-2, X3-4 200 mA.
- They provide cable shield protection by limiting pulse overvoltage through a built-in 90 V gas discharge tube.

Type		HDSP RS485
Testing category according to IEC 61643-21:2000 and EN 61643-21:2001		C2, C3, B3
Number of pairs		1
Connector type		Screw terminals
Maximum continuous operating voltage DC of data line X1-5, X3-5	$U_C$	-7 ÷ 12 V
Maximum continuous operating voltage DC X5-9, X7-9	$U_C$	70 V
Rated load current of data line X1-2, X3-4	$I_L$	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 X2-6, X4-6 at $+I_n$	$U_p$	< 20 V
C2 Voltage protection level X2-6, X4-6 at $-I_n$	$U_p$	> -12 V
C2 Voltage protection level X2-4 at $I_n$	$U_p$	< 26 V
C3 Voltage protection level X2-6, X4-6 at +1 kV/µs	$U_p$	< 17 V
C3 Voltage protection level X2-6, X4-6 at -1 kV/µs	$U_p$	> -10 V
C3 Voltage protection level X2-4 at 1 kV/µs	$U_p$	< 25 V
B3 Voltage protection level X6-10, X8-10 at 100 V/µs	$U_p$	< 550 V
C3 Voltage protection level X6-10, X8-10 at 1 kV/µs	$U_p$	< 700 V
Serial resistance of data line X1-2, X3-4	$R$	8.6 Ω
Capacitance X2-4 at 0 V	$C$	40 pF
Limiting transmission frequency S21 for $Z_0 = 120 \Omega$	$f_c$	50 MHz
Lightning protection zone		LPZ 1-2, LPZ 2-3
Housing material		Polyamid PA6, UL94 V-0
Degree of protection		IP20
Operating temperature	$\theta$	-40 ÷ 70 °C
Clamp fastening range (solid conductor)		0.2 ÷ 4 mm <sup>2</sup>
Tightening moment		0,5 Nm

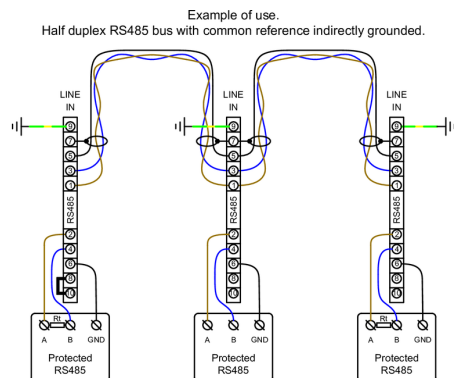
Type		HDSP RS485
Installation		On DIN rail 35 mm
Operating position		Any
Modular design		No
Remote signalling		No
<b>Designed according to standards</b>		
Requirements and test methods for SPDs connected to telecommunications and signalling networks		IEC 61643-21:2000
Safety of Flammability of Plastic Materials		UL 94
<b>Application standards</b>		
Protection against lightning		IEC 62305:2010
<b>Ordering, packaging and additional data</b>		
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 <sup>3</sup>
ETIM group		EG000021
ETIM class		EC000943
Customs tariff no.		85363010
EAN code		8590681185780
<b>Art. number</b>		<b>56 054</b>



The link in the QR code leads to the online presentation of the **HDSP RS485**. 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](http://www.hakel.com)



## Application wiring diagram (installation)



## Internal diagram

