

RS 422 / RS 485 Fieldbus Isolating Repeater

DIN-Rail Model D1061S

Characteristics:

General Description:

The single channel DIN-Rail RS 422 / RS 485 Fieldbus Isolating Repeater D1061S is used to separate Intrinsically Safe RS 422 / RS 485 equipment located in Hazardous Area from a RS 232 / RS 422 / RS 485 controller located in Safe Area.

Transmission speed is dip-switch adjustable from 1.2 Kbit/s up to 1.5 Mbit/s. Terminating impedance is dip-switch selectable inside the unit (250 Ω value) for both sides of communication lines (Hazardous Area and Safe Area side). RS422 / RS 485 connection in Safe Area is provided both on terminal block and DB9 female connector on the unit.

RS232 connection is provided on DB9 female connector.

The module also provides a shield terminal block for connecting cable on Hazardous Area side.

Function:

1 channel I.S. RS 422 / RS 485 isolating repeater, provides 3 port isolation (input/output/supply).

Signalling LEDs:

Power supply indication (green), Rx-Tx transmission (yellow).

Field Configurability:

Hardware is totally configurable via dip-switches; parameters are:

Transmission speed adjustable from 1.2 Kbit/s up to 1.5 Mbit/s.

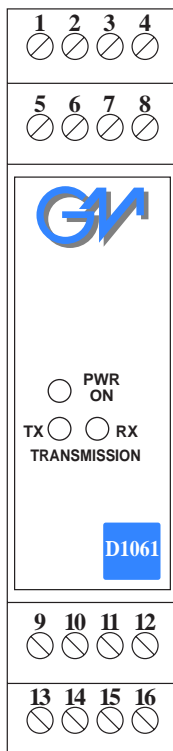
Terminating impedance enabled or disabled in both communication lines.

RS422 / RS 485 connection selection from Terminal Block or DB9 female connector.

EMC:

Fully compliant with CE marking applicable requirements.

Front Panel and Features:



- RS 422 / RS 485 Hazardous Area I.S. Signal.
- RS 232 / RS 422 / RS 485 Safe Area Signal.
- Transmission speed up to 1.5 Mbit/s.
- DIP-Switch Field programmability.
- Three port isolation, Input/Output/Supply.
- EMC Compatibility to EN61000-6-2, EN61000-6-4.
- ATEX Certification.
- High Reliability, SMD components.
- Simplified installation using standard DIN Rail with plug-in terminal blocks.
- 250 Vrms (Um) max. voltage applied to the instruments associated with barrier.

Technical Data:

Supply:

24 V nom (20 to 30 V) reverse polarity protected ripple within voltage limits ≤ 5 Vpp.

Current consumption @ 24 V: 100 mA.

Max. power consumption: 2.80 W with 30 V supply voltage.

Isolation (Test Voltage):

I.S. RS422-RS485 / RS232-RS422-RS485 1.5 KV;

I.S. RS422-RS485 / Supply 1.5 KV;

RS232-RS422-RS485 / Supply 500 V.

Input/Output I.S. Hazardous Area:

RS 422 / RS 485 Intrinsically Safe connection

(EIA RS-422-A and EIA RS-485 applicable standard).

Terminating impedance: 250 Ω dip-switch selectable.

Transmission speed: 1.2, 2.4, 4.8, 9.6, 14.4, 19.2, 38.4, 57.6, 93.75, 115.2, 187.5, 375, 500, 750 Kbit/s or 1.0, 1.5 Mbit/s dip-switch configurable.

Transmission cable length: ≤ 1200 m up to 93.75 Kbit/s, ≤ 1000 m up to 187.5 Kbit/s, ≤ 400 m up to 500 Kbit/s, ≤ 200 m up to 1.5 Mbit/s.

Connection: terminal block up to 2.5 mm², shield terminal block provided for cable connection.

Output/Input Safe Area:

RS232 / RS 422 / RS 485 connection

(EIA RS-232-C, EIA RS-422-A and EIA RS-485 applicable standard).

RS 422 / RS 485 Terminating impedance: 250 Ω dip-switch selectable.

RS 422 / RS 485 Transmission speed: see above.

RS 422 / RS 485 Transmission cable length: see above.

RS 422 / RS 485 Connection: terminal block up to 2.5 mm² or

DB9 female connector (requires DB9 male mating connector),

dip switch configurable.

RS 232 Transmission speed: 1.2, 2.4, 4.8, 9.6, 14.4, 19.2, 38.4, 57.6, 93.75, 115.2 Kbit/s dip-switch configurable.

RS 232 Transmission cable length: ≤ 15 m up to 115.2 Kbit/s.

RS 232 Connection: DB9 female connector (requires DB9 male mating connector).

Compatibility:

CE CE mark compliant, conforms to 94/9/EC Atex Directive and to 89/336/CEE EMC Directive.

Environmental conditions:

Operating: Temperature limits -20 to + 60 °C, relative humidity max 90 % non condensing, up to 35 °C.

Storage: Temperature limits - 40 to + 80 °C.

Safety Description:

Ex II (1) G D [EEEx ia] IIC or I (M2) [EEEx ia] I associated electrical apparatus. Uo/Voc = 3.7 V, Io/Isc = 225 mA, Po/Po = 206 mW at terminal 13-14 and 15-16.

Ui/Vmax = 30 V, Ii/Imax = 282 mA at terminal 13-14-15-16.

Um = 250 Vrms, -20 °C \leq Ta \leq 60°C.

Approvals: DNV-2004-OSL-ATEX-0199 conforms to EN50014, EN50020.

Mounting:

T35 DIN Rail according to EN50022.

Weight: about 160 g.

Connection: By polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm² and SUB D 9 poles (DB9) DIN 41652 female connector (only for RS 232, RS 422, RS 485 Safe Area connection).

Location: Safe Area.

Protection class: IP 20.

Dimensions: Width 22.5 mm, Depth 99 mm, Height 114.5 mm.

Ordering Information:

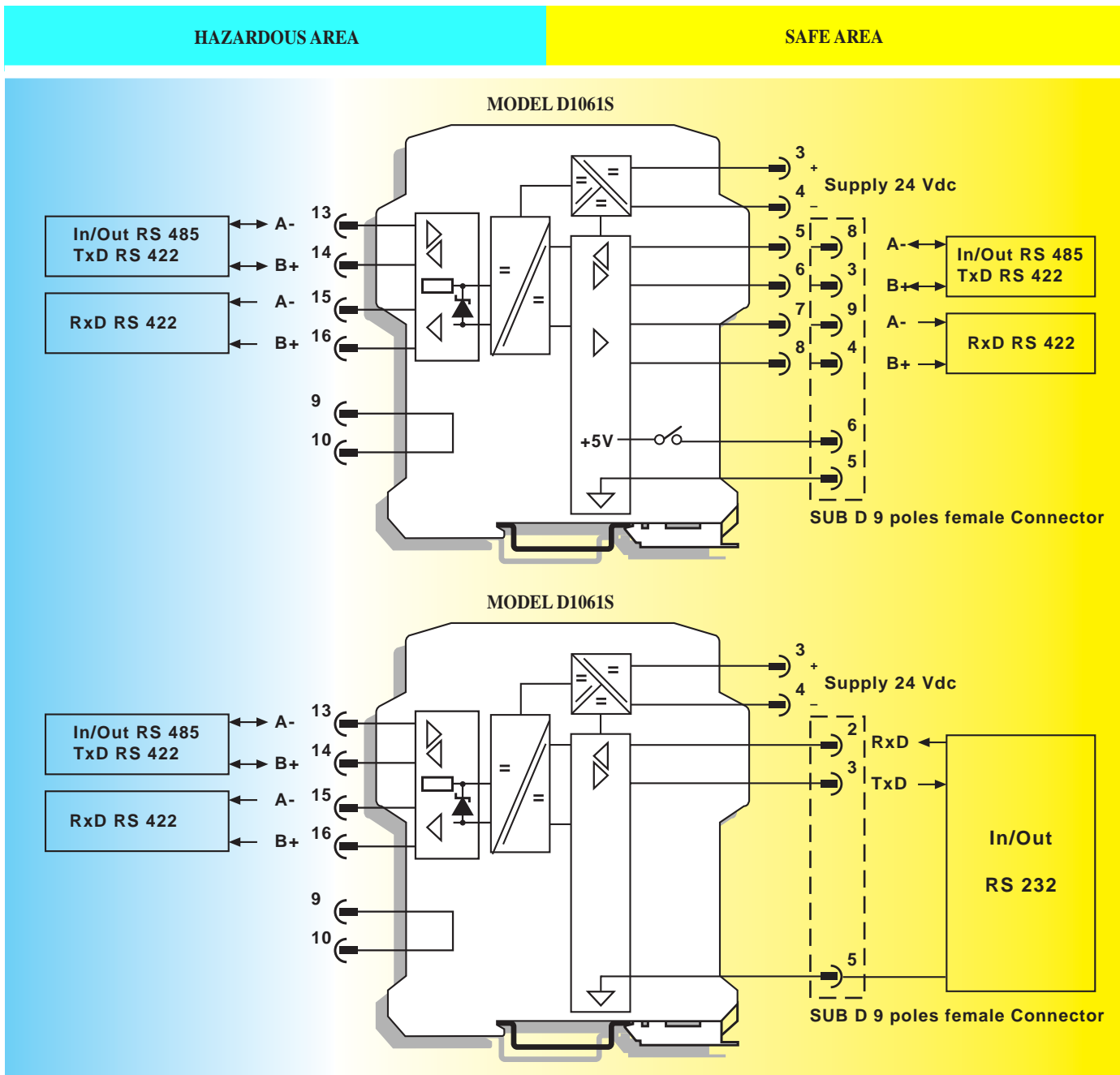
Model:	D1061S	
Power Bus enclosure		/B

Parameters Table:

Safety Description	Maximum External Parameters			
	Group Cenelec	Co/Ca (μF)	Lo/La (mH)	L/R/La/Ra (μH/Ω)
Terminals 13-14 and 15-16 U _o /V _{oc} = 3.7 V I _o /I _{sc} = 225 mA P _o /P _o = 206 mW	II C II B II A	100 1000 1000	0.7 2.8 5.6	173 693 1386
Terminals 13-14-15-16 U _i /V _{max} = 30 V I _i /I _{max} = 282 mA	II C II B II A			



Function Diagram:

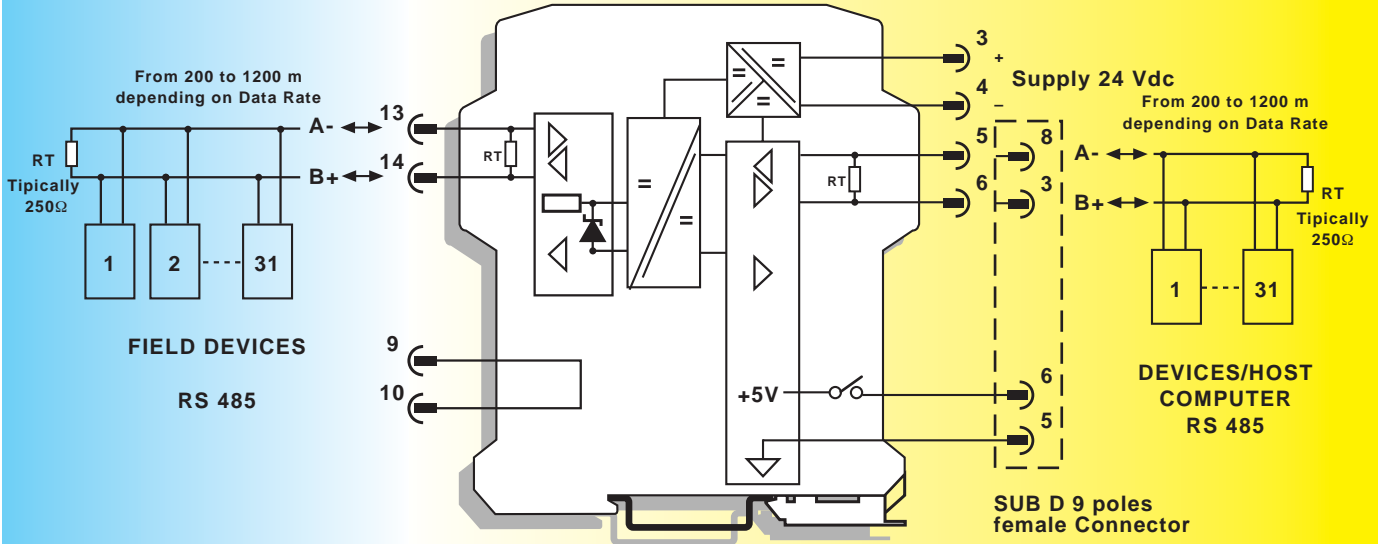


Function Diagram:

HAZARDOUS AREA

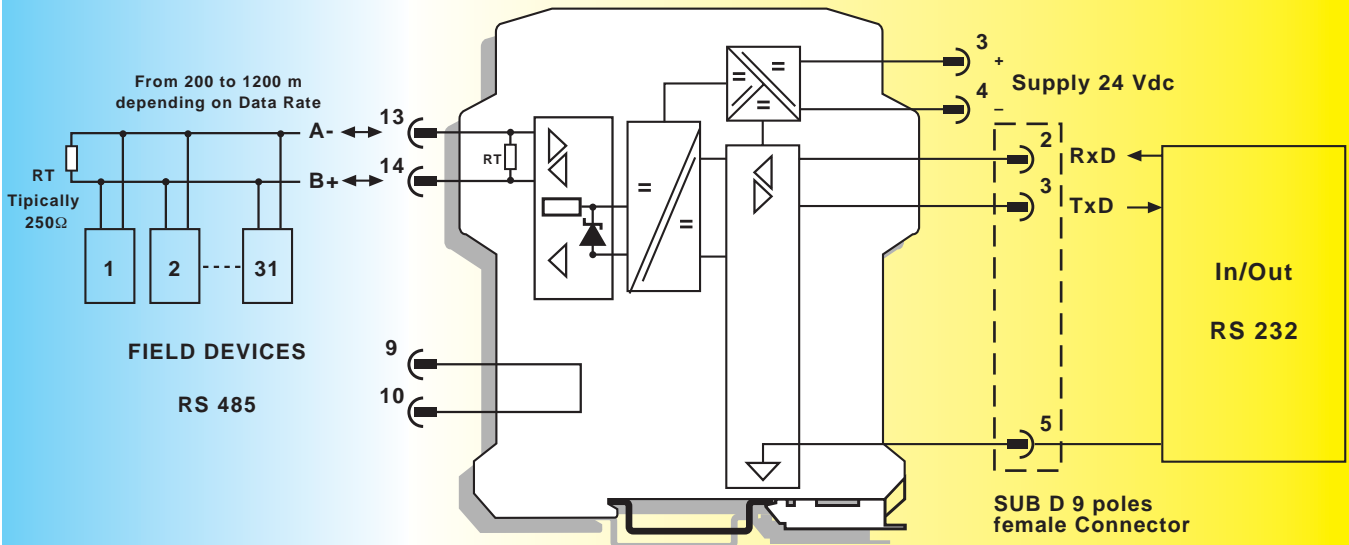
SAFE AREA

MODEL D1061S



Note: Internal RT can be activated by Dip Switch.

MODEL D1061S



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Function Diagram:

HAZARDOUS AREA

SAFE AREA

