Intrinsic Safety Barrier

Modbus Smart Transmitter

Safety Automation Group

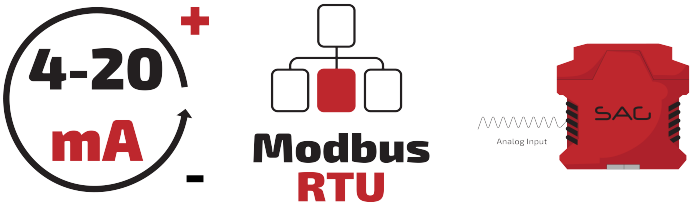
MD-STC1

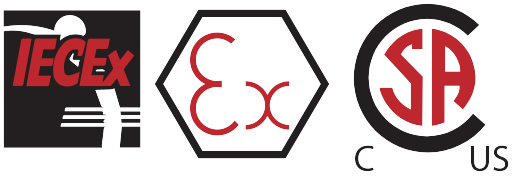
Smart Transmitter Intrinsic Safety Barrier (Modbus Output)

Safety Automation Group

- Support 1 Channels
- 24 VDC Supply
- Analog Signal Type
- Modbus RTU, RS-485 Interface
- Connection with Screw Terminals
- 2 Wire Smart Transmitters
- Configurable with Modbus Protocol
- 4-20 mA Passive Input

Product Features

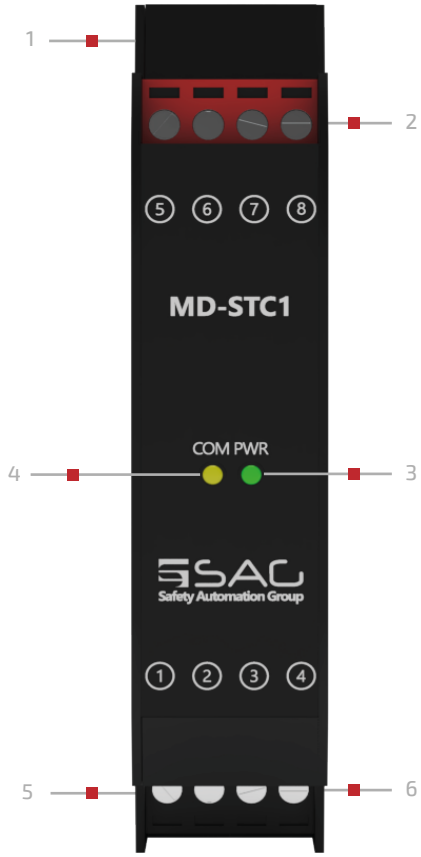




MD-STC Used to read 2-wire smart transmitters in hazardous areas, the MD-STC is an intrinsically safe barrier, with support for up to 2 channels. Through the use of the MODBUS Protocol, data is collected from a hazardous area with 4 ~ 20 mA analog current signal (Zone 0 or Zone 1). The data is then safely transmitted back to the safe area, with a bit rate up to 115.2 kbps via the RS-485 interface; making it ideal for convenient, remote monitoring from a safe area. Note: Using this protocol, data is only transferred from the hazardous area to the safe area, with no more analog signals reproduced in the safe area.

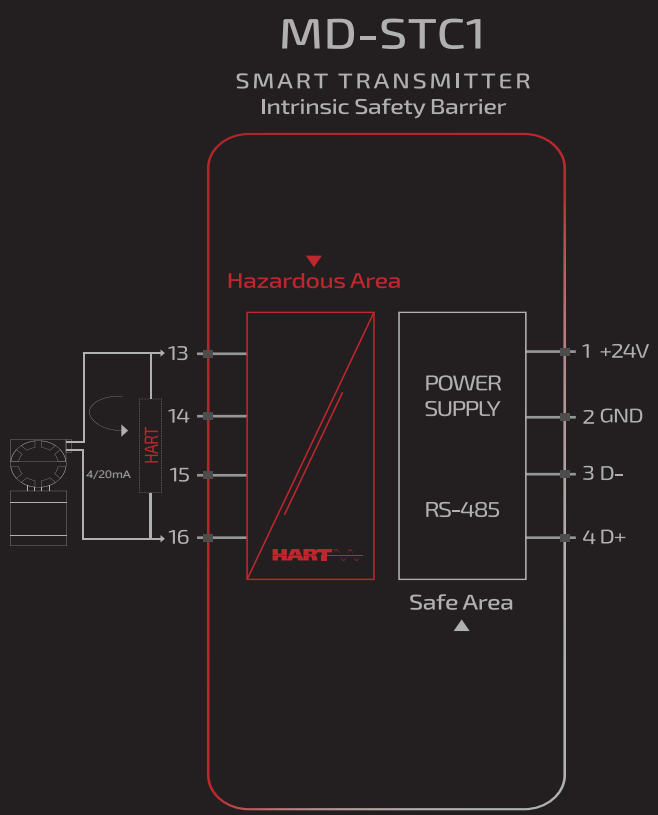
The input of the MD-STC consumes 208 mA current and 5W, with a power dissipation of less than 1W, and a 24 VDC nominal with reversed polarity protected power. The environmental conditions are -20 to +60 °C as an operation, and -25 to +65 °C as storage temperature. The MD-STC has a sturdy 35 mm DIN mounting rail acc.

Front View



1. CAP
2. Analog Input : Channel 1
3. Power LED
4. Communication LED
5. Power Supply Terminal
6. RS-485 Interface

Connection View



MD-STC1 PIN Confiquration			
1. +24VDC		5.	Channel 1
2. GND		6.	Analog Input
3. RS-485 (D-)		7.	HART/4-20 mA
4. RS-485 (D+)		8.	

Smart Transmitter Barrier

TECHNICAL DATA

MD-STC1

GENERAL SPECIFICATION

Signal Type	Analog Input
Number of Channels	1 Channel

SUPPLY

Rated Voltage	24 VDC Nom (20-30 VDC) Reverse Polarity Protected
Connection	Terminal 1 PIN 1(+24 VDC), Terminal 1 PIN 2 (GND)
Power Dissipation	< 1 W
Current Consumption	Approx. 208mA
Max. Power Consumption	5 W

INPUT

Input	4...20 mA
Connection	Terminals 3
Connection Side	Field Side
Avaliable Voltage	> 16 V at 20 mA

Output

Output	Modbus over RS-485
Connection	Terminals 1
Connection Side	Control Side

GALVANIC ISOLATION

Input / Power Supply	1500 VDC Example. safe electrical isolation by reinforced insulation according to IEC/EN 61010^-1 Rated insulation voltage 300 Veff test voltage 3 kV, 50 Hz, 1 min.`
Output/ Power Supply	Functional Insulation, Rated Insulation Voltage 50 V AC
Output/ Output	Functional Insulation, Rated Insulation Voltage 50 V AC

TRANSFER CHARACTERISTICS

Deviation	At –20 to +60 °C, 4...20 mA : ≤10 µA incl.
Influence of Ambient Temperature	0.25 µA/K

DATA CONNECTION

Modbus RTU	RS-485 connection up to 115.2 kbps for Monitor/ Configuration
Connection	Terminal1 PIN 3 (D-), Terminal1 PIN 4 (D+)

Smart Transmitter Barrier

TECHNICAL DATA

MD-STC1

MOUNTING

Mounting	On 35 mm DIN Mounting Rail Acc. to EN 60715:2001

ENVIRONMENTAL CONDITIONS

Operation Temperature	Temperature Limits –20 to +60 °C
Storage Temperature	Temperature Limits –25 to +65 °C

APPROVALS

IEC60079-0, IEC60079-11, IEC60079-15

FM & FM-C No.3024643,3029921C,conforms to Class 3600,3610,3611,3810

LOCATION

Safe Area/Non Hazardous Locations or Zone 2, Group IIC T4, Class I, Division 2, Groups A, B, C, D

Temperature Code T4 and Class I, Zone 2, Group IIC, IIB, IIA T4 installation.

SAFETY DESCRIPTION

ATEX	Ex ic [ia Ga] IIC T4 Gc, Ex ic [ic] IIC T4 Gc, Ex ic [ia IIIC Da] IIC Gc, Ex ic [ic IIIC Dc] IIC Gc
IECEx	Ex ic [ia Ga] IIC T4 Gc, Ex ic [ic] IIC T4 Gc, Ex ic [ia IIIC Da] IIC Gc, Ex ic [ic IIIC Dc] IIC Gc
North American Zones	Class 1, Zone 2 AEx ic [ia Ga] IIC T4 Gc, Class I, Zone 2 AEx [ic] IIC T4 Gc Zone 20 Ex ic [ia IIIC Da] IIC Gc, Zone 2 Ex ic [ic IIIC Dc] IIC Gc
North American Div	Class I, Division 2, Groups A, B, C, D T4, Class II, Division 2, Groups F, G

ASSOCIATED ELECTRICAL APPARATUS

Vo/Voc	17.0 V, Io/Isc = 85 mA, Po/Po = 1.45 W
IECEx	24V, Ci = 6 nF, Li = 0 nH. Um = 30 V, -20 °C ≤ Ta ≤ 60°C.

ORDERING INFORMATION

MD-STC N

MD:
Modbus Compatible
STC:
2 Wire Smart Transmitters
N:
Number of Channels
1 : One Channel 2 : Two Channel

ORDERING INFORMATION

MD-STC1	Modbus Smart Transmitter, 1 Channel
MD-STC2	Modbus Smart Transmitter, 2 Channel

SAG
Safety Automation Group

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