

# Intrinsic Safety Barrier

HART Smart Transmitter



# AD-STC2

Smart Transmitter Intrinsic Safety Barrier  
(HART Output)



- Support 2 Channels
- 24 VDC Supply
- Analog Signal Type
- Connection with Screw Terminals
- 2 Wire Smart Transmitters
- 4-20 mA Passive Input Source Output

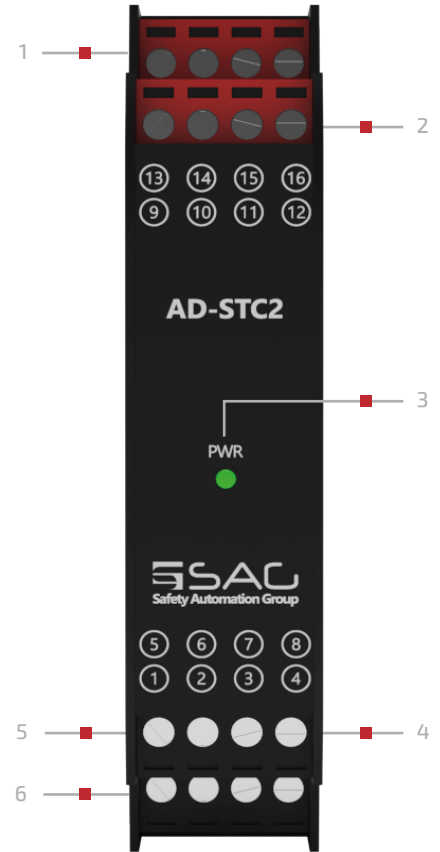
## Product Features



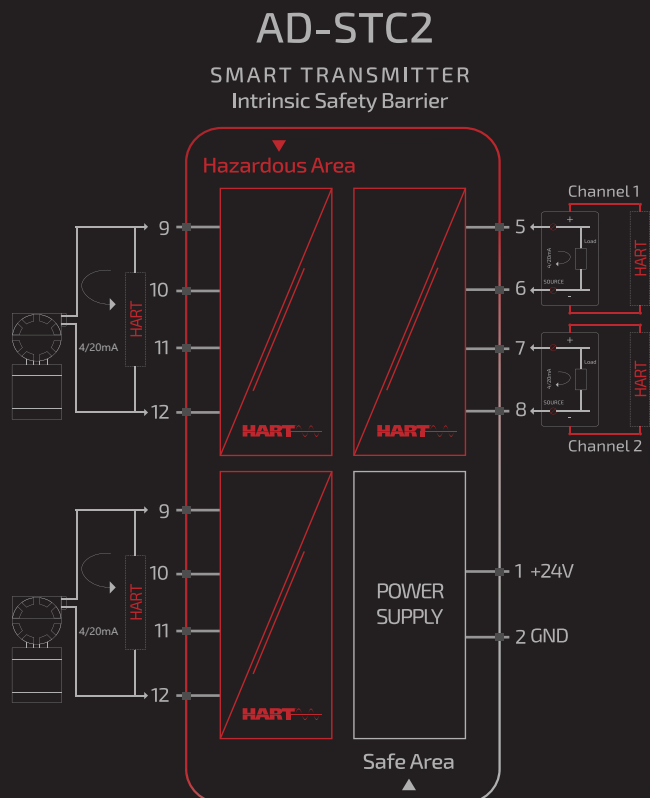
**AD-STC** is an intrinsically safe barrier, designed with 1 or 2 channel(s) for reading 2-wire smart transmitters in hazardous areas. It reads data from hazardous areas through a 4 ~ 20 mA analog current signal via the HART protocol, which it then transfers to the safe area. After that, the collected data at the safe area is transmitted to the station, through a reproduced analog signal similar to the one in the hazardous area. Moreover, digital signals may be superimposed on the input signal in the hazardous or safe area, which it then transfers bi-directionally. The current and power consumption of the input is about 208 mA and 5W, respectively, and the power dissipation is less than 1W. The environmental conditions are -20 to +60 °C as an operation, and -25 to +65 °C as storage temperature. The **AD-STC** is mounted on a sturdy 35 mm DIN mounting rail acc.

# Front View

1. Analog Input : Channel 2
2. Analog Input : Channel 1
3. Power LED
4. HART Interface Channel 2
5. HART Interface Channel 1
6. Power Supply Terminal



## Connection View



### AD-STC2 PIN Configuration

1. +24VDC	9. Channel 1
2. GND	10. Analog Input
	11. HART/4-20 mA
5. HART Interface Channel 1	13. Channel 3
6. HART Interface Channel 2	14. Analog Input
7. HART Interface Channel 2	15. HART/4-20 mA
8.	16.

### TECHNICAL DATA

#### GENERAL SPECIFICATION

Signal Type	Analog Input
Number of Channels	2 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 3,4
Connection Side	Field Side
Available Voltage	> 16 V at 20 mA

#### OUTPUT

Output	4...20 mA
Connection	Terminals 2
Connection Side	Control Side
Load	0...550 $\Omega$ at 20 mA
Ripple	max. 50 $\mu$ A rms

#### GALVANIC ISOLATION

Input / Power Supply	1500 VDC Example. safe electrical isolation by reinforced insulation according to IEC/EN 61010 <sup>-1</sup> 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 : $\leq 10 \mu$ A incl.
Influence of Ambient Temperature	0.25 $\mu$ A/K

#### MOUNTING

Mounting	On 35 mm DIN Mounting Rail Acc. to EN 60715:2001
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# Smart Transmitter Barrier

## TECHNICAL DATA

AD-STC2

### 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

### AD-STC N

AD:

HART Compatible

STC:

2 Wire Smart Transmitters

N:

Number of Channels

1 : One Channel

2 : Two Channel

### ORDERING INFORMATION

AD-STC1	HART Smart Transmitter, 1 Channel
AD-STC2	HART Smart Transmitter, 2 Channel





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