

INTRINSIC SAFETY SETPOINT DETECTORS

DSv-SIN P / DSCv-SIN P
DSv-SIN O / DSCv-SIN O



Features



- **Connection with footing** to the local bus of the range of 7mm modules of inputs/outputs and converters TPIs and concentrators TPIvM.
- **2 INPUT VERSIONS:**
DSv-SIN P / DSCv-SIN P:
 $\pm 100\text{mV}$, $\pm 1\text{V}$, $\pm 10\text{V}$, $\pm 150\text{V}$, $\pm 270\text{V}$, $\pm 20\text{mA}$
DSv-SIN O / DSCv-SIN O:
 Pt100 , ΔPt100
- **Response time**
 average: 150ms
 Fast version: 40ms
- **Supply for 2-wire sensor on the types DSv-SIN P / DSCv-SIN P**
- **Relay outputs (R):** 2 change-over relays (5A/250 VAC on resistive load).
Sensor break detection and self-diagnosis.
Isolation between input/outputs/supply.
Mode simulation: allows validating the configuration or the installation.
Programming with the micro-console or with the PC software SlimSET via a standard USB / μUSB cable.

This series has intrinsically safe inputs: they are associated equipment, to be placed in safe area or ATEX/IECEx area 2. They have input circuits for connection to a sensor placed in hazardous area and output circuits for connection only in safe area or ATEX/IECEx area 2.

These appliances have obtained a UE examination certificate of the type according to the prescriptions of the standards EN 60079-0, EN 60079-7, EN 60079-11 and EN 60079-15 in accordance with the directive ATEX 2014/34/UE.

Marking: II 3 (1) G Ex ec nC [ja Ga] IIC T4 Gc

Configuration

Easy programming with a micro-console or by PC software SlimSET (via a standard USB / μUSB cable).

Programming with the Micro-console

The graphical rear-lit LCD with tactile keyboard allows the visualisation of the following information:

- the value of the measure with its unit,
- the product tag name,
- the status of the relay outputs.
- Scrolling message for programming help in various languages
- Passcode protected programming

Programming by PC: SlimSET

Programming software (Windows environment) allowing:
 The storage of the configurations as files which can be consulted, modified, duplicated or loaded into the converters.
 The edition and printing of files with or without having a setpoint detector connected.

This converter may either operate in an autonomous way or belong to a local network consisting of converters and modules of the range TPIs.

Each converter or module is latched on the DIN rail via a 5-points footing allowing the distribution of the communication and supply signals (24 Vdc $\pm 30\%$ power supply).

The modules allow to increase the number of analog or relay outputs. Up to 50 modules or converters can be connected on the same bus, and up to 200 different measures can be made to transit.

A supervision and concentrator module (of the range TPIvM) with output Modbus / Modbus TCP / Ethernet / Profinet / Profibus and option Datalogger on SD card can also be added on the bus.

Marking



II 3(1)G Ex ec nC [ja Ga] IIC T4 Gc
 SIRA 17ATEX4222 X
 IECEx CSA 17.0025 X



ATEX
 ZONE 2



Process
 Control
 Equipment
 E482453

Features

- **Supply:** 16.8 to 31.2Vdc
- **Power draw:** 2.5 W max.
- **Operating temperature:** -20 to +60°C
- **Storage temperature:** -20 to +70°C
- **Installation:** Pollution degree 2 / voltage surge II
- Protection: housing/terminals: IP 20
- Removable terminal blocks for screwed connections (2.5 mm², flexible or rigid)
- Weight: 290g (with packaging)
- Self- extinguishing case of black UL 94VO PA66.
- Mounting in switchbox: latching on symmetrical DIN rail.
- **Compliance with standards:**
 - Directive LV 2014/35/UE EN 61010-1
 - Standard for UL electrical safety UL 61010-1
 - CSA C22.2 NO.61010-1-12
 - Directive ATEX 2014/34/UE EN 60079-0, EN 60079-7
 - EN 60079-11, EN 60079-15
 - IECEx IEC 60079-0, IEC 60079-7
 - IEC 60079-11, IEC 60079-15
 - Directive EMC 2014/30/UE EN 61326-1

Coding

version	with display		without display	
response time	standard	fast	standard	fast
process input	DSCv-SIN P	DSCv-SIN PF	DSv-SIN P	DSv-SIN PF
Pt100 input	DSCv-SIN O	DSCv-SIN OF	DSv-SIN O	DSv-SIN OF

Features

Inputs

DS(C)V-SIN		Types of INPUTS	Measure range adjustable from:		Permanent overload	Intrinsic error	Input impedance
P	O						
●		mA(1)	-2 to +22mA (U) ----- 22 to +22mA(B)		±100mA	< ±0.1% of the MR for inputs of the type (U) < ±0.05% of the MR for inputs of the type (B)	Max. drop 0.9V
●		mV(1)	-10 to +110mV (U) ----- -110 to +110mV (B)		±1V		≥ 1MΩ
●		V	-0.1 to +1.1V (U) ----- -1.1 to +1.1V (B)		±50V		
			-1 to +11V (U) ----- -11 to +11V (B)				
			-15 to +165V (U) ----- -165 to +165V (B)		±300V		
			-30 to +300V (U) ----- -300 to +300V (B)				
				●	Pt100Ω sensor (1)(2) Standard IEC 751 (DIN 43760)	°C -200/850	
	●	Differential measures from 2 sensors Pt100Ω 2-wire Standard IEC 751 (1)	-200/270	-328/518	-		
●		Supply for 2-wire sensor	27...17 Vdc / 0...20mA with protection from short-circuits: 25 mA.				
●		Special linearisation programming up to 20 points	On inputs: mV, V, mA.				
●		Extraction of the square root	On inputs mV, V or mA				

- (1) Sensor break detection:
mA input (if down scale ≥ 3,5mA)
Other inputs: a 12μA pulsed current allows the detection of line or sensor break

MR Measure range
Thermal drift <150ppm/°C

- (2) Wiring possible in 2, 3 and 4 wire
Influence of the line resistance (0<RI<<25Ω) included in the announced intrinsic error.

Outputs

Types of OUTPUTS	Features
2 change-over relays	2 setpoints per relay configurable over the whole MR. Hysteresis programmable from 0 to 100%. Time delay programmable from 0 to 999.9 sec. (5A/250 VAC on resistive load)

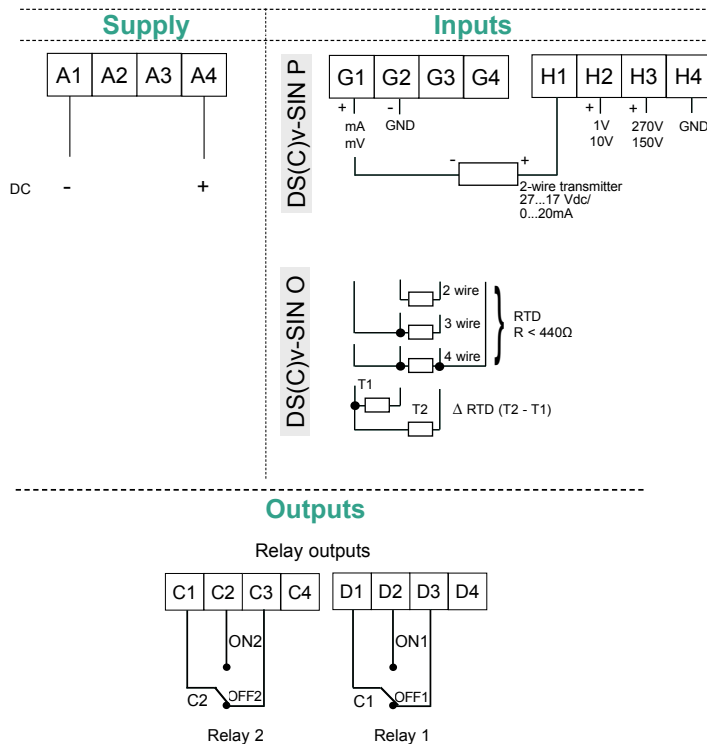
Response time of the outputs:

(for a variation from 10 to 90% of the input signal)
Average response time 150 ms (40 ms version F)

Galvanic isolation:

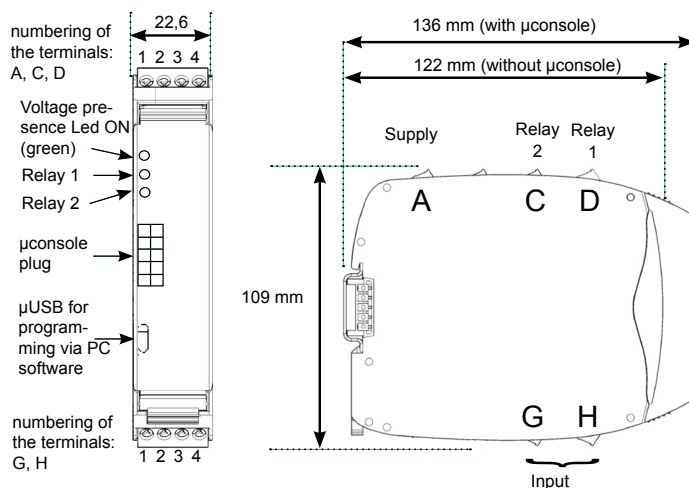
3.8kV-50Hz-1min. between input and [supply / outputs]
3.0kV-50Hz-1min. between relay outputs and supply
3.0kV-50Hz-1min. between relay output 1 and relay output 2

Connecting



PARAMETRES ELECTRIQUES RELATIFS A LA SECURITE SAFETY ELECTRICAL PARAMETERS						
Type de mesure Measure type	Câblage Wiring	Uo (V)	Io mA	Po (mW)	Co (μF)	Lo (mH)
Alimentation capteur 2-wire sensor supply	G1-H1	28.4	90.5	643	0.077	4
mV, V, mA, Tc, RTD Résistance, potentiomètre Resistance, potentiometer	G1-G2-G3 G4-H2 H3-H4	8.0	2.0	2.0	8.4	>1000
Um < 250 Vdc and Um < 250 Vac						

Dimensions



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