

INTRINSIC SAFETY SETPOINT DETECTORS

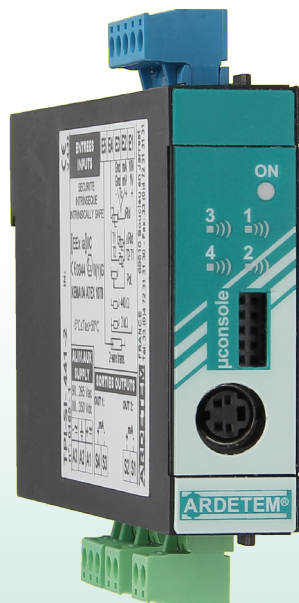
DS-SI(C)P / DAS-SI(C)PLUS
DS-SI(C)O / DAS-SI(C)100
DS-SI(C)F / DAS-SI(C)I

ARDETEM

SFERE

This series has **intrinsic safety inputs**: They are associated equipment, placed in safe area. They have input circuits for connection to a sensor placed in hazardous area and output circuits for connection in safe area only. These instruments have obtained a UE examination certificate of the type according to the prescriptions of the standards EN 60079-0 (2006), EN 60079-11 (2007), EN 60079-26 (2007), EN 61241-0 (2006) and EN 61241-11 (2006), in accordance with the directive ATEX 2014/34/UE.

Marking 0344 Ex II(1)GD, [Ex ia] IIC and [Ex iaD].



► 3 input versions:

Process input: $\pm 100\text{mV}$, $\pm 1\text{V}$, $\pm 10\text{V}$, $\pm 300\text{V}$, $\pm 20\text{mA}$

Pt100 input: Pt100 3 wire

Input: Frequency

► Outputs:

2 NO contact relays
(5A/250 VAC on resistive load)

► CE Marking

Environment

► Operating temperature: -10°C to $+50^{\circ}\text{C}$.

► Storage temperature: -20°C to $+70^{\circ}\text{C}$.

A range of products which can be programmed by PC via the software SUPERVision (ARDETEM) or MCvision (SFERE) or with the micro-console.

The μ console is systematically delivered with the references DS-SICP/DAS-SICPLUS DS-SICO/DAS-SIC100 DS-SICF/DAS-SICI

Programming

Programming with the micro-console

The series DS/DAS-SI accepts 2 types of μ consoles:

- the old generation with 4 alphanumerical electroluminescent green digits,
- the new generation with graphical rear-lit LCD.

The LCD allows visualising 4 pieces of information:

- the value of the measure (5 mm high),
- the unit of the displayed measure, *
- the tag name of the product*
- the status of the relay outputs and the RS485 data link. *

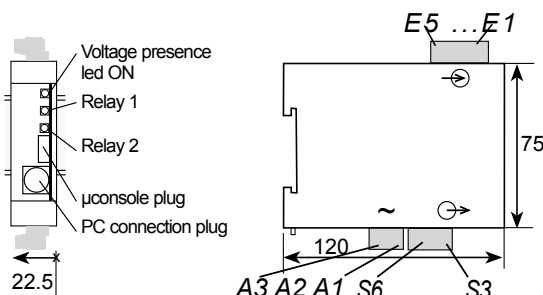
*(3.5 mm high)

This μ console with LCD also allows showing these information vertically or horizontally, according to the sense in which the converter is mounted

Configuration software

Each configuration is kept as a file stored on hard or floppy disk. These files can then be consulted, modified, duplicated or loaded into the converters. The files can be created with or without having a converter connected. This software also allows the saving of existing configurations from the instruments already in service. All files can be edited on any type of printer.

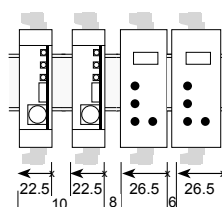
Description



Self-extinguishing case of black UL 94VO ABS.

Protection: housing/terminals: IP20

Mounting in switchbox: latching on symmetrical DIN rail.



Rack version: consult.

Dimensions: 22,5x75x120 mm
with μ console: 26,5x80x130 mm

Mount the instruments vertically (on horizontal DIN rail), leaving a 10mm space between each. This mounting allows inserting the μ console.

Operating T°: -10° to 50°C

Storage T°: -20 to 70°C

Coding

Type **DS-SIP/DAS-SIPLUS - 2**

Inputs:

DS-SIP/DAS-SIPLUS : process
DS-SIO/DAS-SI100 : Pt 100
DS-SIF/DAS-SII : Frequency

ARDETEM reference: DS-SI
SFERE reference: DAS-SI

Instrument with console

DS-SICP/DAS-SICPLUS : process
DS-SICO/DAS-SIC100 : Pt 100
DS-SICF/DAS-SICI : Frequency

Power supply:
3 Low voltage
2 High voltage



Technical features

INPUTS

DS-SICF DAS-SICF	DS-SICO DAS-SICO	DS-SICP DAS-SICP	DS-SICPLUS DAS-SICPLUS	Types of INPUTS	Measure range adjustable from:	Intrinsic error	Console resolution	Input impedance
	•			mA	-22 to +22mA	< ±0.05% of the MR	10 µA	5 Ω
	•			mV▲	-110 to +110mV		10 µV	≥ 1MΩ
		•		V	-11 to +11V		1 mV	
	•			Sensor Pt100Ω ▲* 3 wire, Stand. - IEC 751 (DIN 43760)	°C °F -200/850 -328/1562	<±0.1% of the MR	0.1°C / 0.1°F	Current 250µA
•				Frequency Namur or Contact Supply: 8.5 V (10mA max)	0.01 Hz to 20 Hz Contact input 0.01 Hz to 50 KHz Namur input	0.025% of the MR	-	1kΩ

* Line resistance <25Ω

MR measure range

▲ A 12 µA pulsed current allows the detection of
line or sensor rupture for a cycle time programmed
at 100ms.

RESPONSE TIME OF THE RELAYS

(for a variation from 0 to 90% of the input signal)

• DS-SIP/DAS-SIPLUS - DS-SICP/DAS-SICPLUS

Programmable cycle time	Max. response time (ms)	Rejection
16.6 ms	30 ms	60 Hz
20.0 ms	35 ms	50 Hz
100 ms	110 ms	50 Hz / 60Hz

* The response times are guaranteed 10 minutes after setting the
converter on tension and 30 seconds after a saving of the pro-
gramming, a revert from measure overrange or a sensor break.

• DS-SIO/DAS-SI100 - DS-SICO/DAS-SIC100

Cycle time: 100 ms

Response time of the relays: 410 ms max..

• DS-SIF/DAS-SII DS-SICF/DAS-SICI

Sampling time: 100 ms + 1 period of the signal + 10 ms
measured (min. measurable frequency programmable)

OUTPUTS

DS-SICF DAS-SICF	DS-SICO DAS-SICO	DS-SICP DAS-SICP	DS-SICPLUS DAS-SICPLUS	Code	Types of OUTPUTS	Features
•	•	•		R	2 relays 1NO contact	2 setpoints per relay, configurable on the whole MR. Hysteresis programmable from 0 to 100%. Time delay program- mable from 0 to 25 sec. (5A/250 VAC on resistive load)

Galvanic partition: 2kV-50Hz-1min. between supply / relay output
3.8 kV 50Hz 1 min. between input / [supply / relay output]

Code	Type of SUPPLY	Max. operating range	Power draw	Dielectric withstanding
3	Low voltage	20 to 40 VAC and 20 to 64 VDC	3 W max.	2KV-50Hz- 1min.
2	High voltage	90 to 265 VAC and 88 to 350 VDC	5 VA max.	

Standards: Directive EMC 2014/30/UE

Generic standards: CEI 61000-6-2
CEI 61000-6-4

Directive ATEX 2014/34/UE standards: EN 60079-0 (2006), EN 60079-11 (2007),
EN 60079-26 (2007), EN 61241-0 (2006) and EN 61241-11 (2006)



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FRANCE

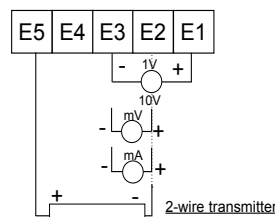
Tél. : 33 (0)4 72 31 31 30
Fax. : 33 (0)4 72 31 31 31

Wiring

Upper connectors

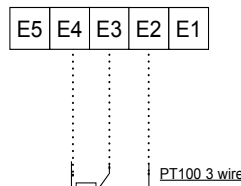
DS-SIP/DAS-SIPLUS - DS-SICP/DAS-SICPLUS

INPUTS



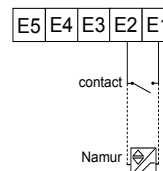
DS-SIO/DAS-SI100 - DS-SICO/DAS-SIC100

INPUTS



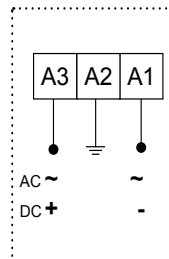
DS-SIF/DAS-SII - DS-SICF/DAS-SICI

INPUTS

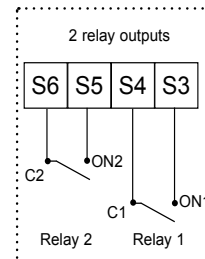


Lower connector

SUPPLY



OUTPUTS



ELECTRICAL PARAMETERS RELATING TO THE SAFETY

	Terminals	Uo	Io	Po	Lo	Co
Sensor supply	E2 - E5	23.1V	100mA	578mW	4mH	138nF
Current (mA)	E2 - E3	6.5V	20.3mA	33mW	85mH	25µF
Voltage (mV)						
Thermocouple (tc)						
Voltage (1V, 10V)	E1 - E3	13V	4.7mA	16mW	1.6H	1µF
Resistance (440Ω)	E4 - E3					
Sensor (Ni100, Pt100, ΔPt100)	E2-E3- E4	6.5V	20.3mA	33mW	85mH	25µF
Potentiometer	E1-E3- E4					
Resistance (2kΩ, 8kΩ)	E1-E3- E4-E3					

Um < 350 Vdc and Um < 265 Vac

DS-SICF/DAS-SICI (frequency input)

ELECTRICAL PARAMETERS RELATING TO THE SAFETY

	Terminals	Uo	Io	Po	Lo	Co
Contact / Namur	E1 - E2	9.6V	11.7mA	29mW	200mH	3.6µF

Um < 350 Vdc and Um < 265 Vac

your representative

