

# ANALOGUE SIGNAL CONTROL UNIT

## CSA-1



Catalogue card



## DESCRIPTION

CSA-1 Analogue Signal Control Unit is generally intended for use with the safety system CST. It can also operate with other systems, on condition that they comply with the supply & measurement line parameters.

The main purpose of using the CSA-1 unit is the possibility of connecting sensors with voltage analogue outputs of 0,4 – 2V to the CST system. The unit not only does the measurements and transfers them, but also supplies the connected sensors with power. Application of the control unit highly extends the measurement capability of the CST-40(A) unit and contributes to an increase of its capacity even up to 160 sensors (40 lines x 4 sensors per channel).

To each CST-40 supply-transmission line a single CSA-1 control unit can be connected, to which up to four analogue sensors can be linked. At the CST-40(A) query, CSA-1 unit transfers information on the size of an analogue measurement signal, and on existing damage measurement lines such as a shortcut or an overload of a power supply line. The measurement datas are processed in the CST system.

The CSA-1 control unit does not require an operator's intervention. All control functions and configuration data are transmitted from the CST-40(A) unit. On connecting the unit to a CST- 40(A) line it starts operating automatically and it awaits the configuration data from the system. The data contain a number of linked sensors (1 to 4), which is equivalent to powering on chosen sensors. While powering on individual sensors the total load power input for the CST-40(A) line is being checked. An overload or a shortcut detected on a sensor supply line leads to its disconnection. Analogue values are measured and processed by the CPU cyclically. The system takes data from 0V to 2,5V, but valid measurement ranges from 0,4V do 2V. Values below 0,4V and above 2V show excess of the measurement range of a sensor, damage to the sensor line or damage to the sensor itself.

Bits of information on run statuses of individual channels and their metrological values are transferred, displayed and stored in the CST system.

## BASIC TECHNICAL PARAMETERS

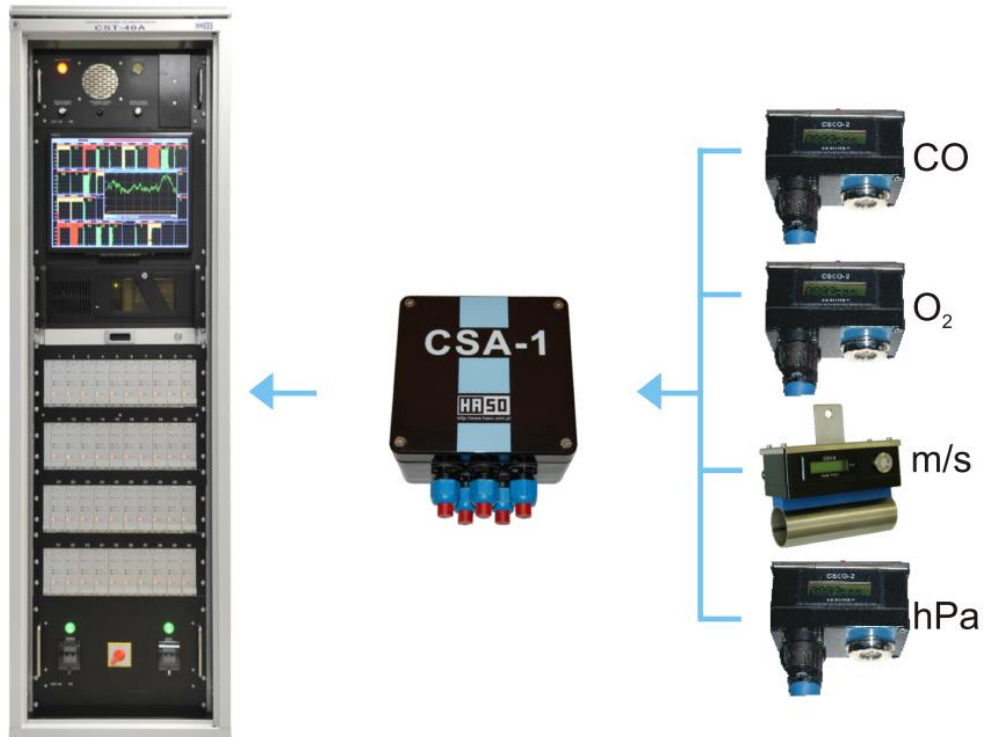
### Analogue signal control unit CSA-1

Power supply	27 mA
Transmission mode	digital
Max. transmission time (of a measurement cycle)	2s
Max. length of a supply-transmission line	8 km
Number of measurement lines	4
Max. total power supply for sensors	20 mA
Rated voltage for sensors	12 V DC
Measurement range	0,4 – 2,0 V DC
Measurement accuracy	± 1 %
Measurement and diagnostics' indicators	LED for each channel
Max. length of a sensor line	1500 m
Protection index	IP 65
Working temperatures	-5 °C to + 40 °C
External dimensions (without holders)	200 x 190 x 95 mm
Weight	2 kg
<b>Acceptable parameters of linked sensors</b>	
Rated voltage	12 V DC
Max. total power intake	20 mA
Output voltage range	0,4 – 2,0 V

**EXPLOSION-PROOF MARK**

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EC type examination certificate: KDB 05 ATEX 039X

**CONFIGURATION OF COOPERATION CSA-1**

**Pictorial diagram of CSA-1 central unit mating with sensors and CST-40(A) system**