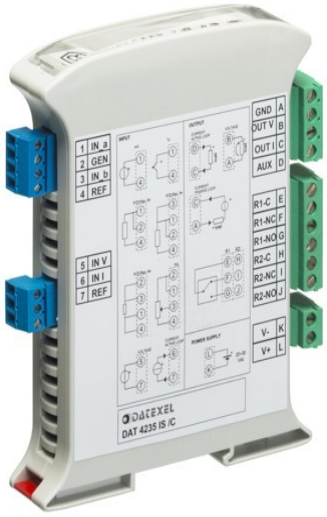
INSTRUCTIONS DAT 4235 IS ATEX

INSTALLATION, MAINTENANCE and USE

INTRODUCTION

Hereafter are reported the safety instructions for use of DATEXEL Associated Apparatus , in compliance with the European standard 94/9/EC (ATEX).

Read carefully these instructions before to install or test the following devices:



ATEX

DAT 4235 IS /A

DAT 4235 IS /B

DAT 4235 IS /C

DESCRIPTION

The Associated Apparatus DAT 4235 IS /A, DAT 4235 IS /B and DAT 4235 IS /C are designed and manufactured by DATEXEL Srl Tradate (VA) in compliance with the Essential Health and Safety Requirements defined by the Directive 94/9/EC (ATEX), Group II, Category (1) G D, in compliance with the Normes EN 60079-0, EN 60079-11, EN 61241-0 and EN 61241-11.

MARKING

CERTIFICATE NUMBER:

CESI 04 ATEX 096

PROTECTION MODE:

[Ex ia] IIC / [Ex iaD]

Associated Apparatus,
category "ia", group "IIC", for installation in safe area.

ATEX CODE:

CE 0722 Ex II (1) G D

0722	**nr. Notified Body charged of surveillance on production (CESI)**
II	**Group II (surface installations)**
(1)	**Category 1 apparatus (associated apparatus)**
G D	**Explosive atmosphere of gases, vapours and mists(G) ; dusts (D)**

ELECTRICAL CHARACTERISTICS

Intrinsically safe specifications:

DAT 4235 IS /A
(converter)

Terminals A-B-C-D; K-L : Um = 250 V	
Terminals 1-2-3-4-5-6-7 :	Terminals 5-6-7:
Uo = 7.8 V Io = 32 mA Po = 140 mW Lo = 20 mH Co = 2 uF	Ui = 30 V Ii = 100 mA Pi = 0.75 W Li = ~ 0 mH Ci = 24 nF
Ta : -20 ÷ +60 °C	

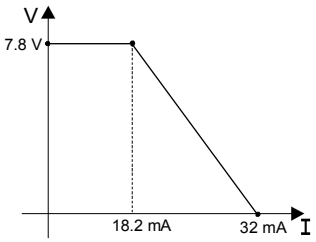
DAT 4235 IS /B
(trip amplifier)

Terminals E-F-G-H-I-J; K-L : Um = 250 V	
Terminals 1-2-3-4-5-6-7 :	Terminals 5-6-7:
Uo = 7.8 V Io = 32 mA Po = 140 mW Lo = 20 mH Co = 2 uF	Ui = 30 V Ii = 100 mA Pi = 0.75 W Li = ~ 0 mH Ci = 24 nF
Ta : -20 ÷ +60 °C	

DAT 4235 IS /C
(converter and trip amplifier)

Terminals A-B-C-D; E-F-G-H-I-J; K-L : Um = 250 V	
Terminals 1-2-3-4-5-6-7 :	Terminals 5-6-7:
Uo = 7.8 V Io = 32 mA Po = 140 mW Lo = 20 mH Co = 2 uF	Ui = 30 V Ii = 100 mA Pi = 0.75 W Li = ~ 0 mH Ci = 24 nF
Ta : -20 ÷ +60 °C	

Load characteristics terminals 1-2-3-4-5-6-7:



Operative temperature:

Ta : -20 ÷ +60 °C

SAFETY INSTRUCTIONS FOR INSTALLATION, USE and MAINTENANCE

The installation and maintenance of DATEXEL Associated Apparatus must be made in compliance with the Standards relative to electric installations in hazardous areas. Before install the device, read carefully the relative instructions sheet and respect the following standards:

Hazardous areas with GAS atmosphere (not mines)

- Standard EN 60079-14 (current edition) for choice and installation of the equipments.

- Standard EN 60079-25 (current edition) for intrinsically safe Systems.
(note: every "typology" of Ex i system must be described in a "System description" document).

- Standard EN 60079-17 (current edition) for check and maintenance.

Hazardous areas with presence of COMBUSTIBLE DUSTS

- Standard EN 61241-14 (current edition) for choice and installation of the equipments.

- Standard EN 61241-17 (current edition) for check and maintenance.

To guarantee a correct and safe operation of devices, respect the following requirements:

1) All devices connected to the output and power supply terminals and to relays must be subjected at a maximum voltage of 250 Vrms (Um). The power supply voltage value must be included between 20 and 30 Vdc.

2) The devices must be installed in a SAFE AREA or in hazardous area if them have been closed in an explosion proof enclosure. Moreover , it is necessary to connect the devices in applications that guarantee them a minimum grade of protection IP20 for internal places, or IP54 for external places.

3)The device must be programmed only in SAFE ZONE and only by the interface PRODAT-IS.

4) Repair of devices and substitution of protections must be executed only by DATEXEL s.r.l.

APPLICATION NOTES

The device DAT 4235 IS accepts on input signals coming from sensors placed in hazardous area (Thermocouples, mV, RTD resistive sensors, potentiometers) or voltage (from -10 up to 10 V) and current (from -20 up to 20 mA) signals.
The model DAT4235 IS /A converts the input measure in a isolated voltage (from 0 up to 10 V) or current (from 0 up to 20 mA) signal.
The model DAT4235 IS /B is a double trip amplifier with relay output.
The model DAT4235 IS /C operates both as converter and double trip amplifier.

All devices make a galvanic isolation between input and output; this is necessary when the sensor has not a right isolation to the ground.
All device are designed for mounting on DIN rail.

In a Intrinsically Safe system it is necessary to verify that the maximum energy available in the circuit will be lower than the ignition value of the explosive mixture.
It occurs to verify specifically that:

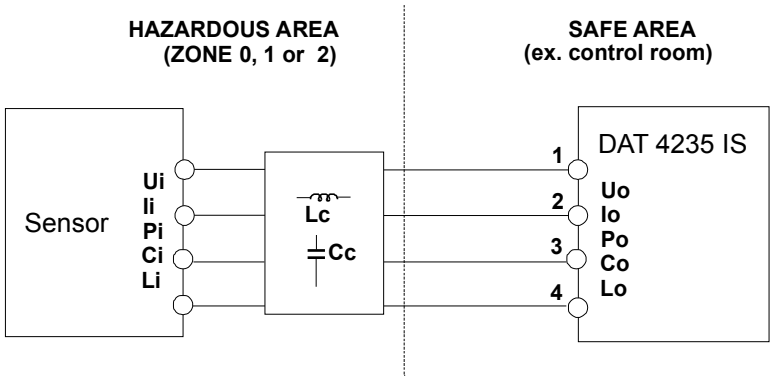
- The intrinsically safe equipments and the associated apparatus must be qualified for the employ in the hazardous zone which them have been connected (category, type of gas, etc..).

- The values Ui, Ii and Pi of an equipment must be respectively equal o greater than the maximum values Uo, Io and Po of equipments which it has been connected.

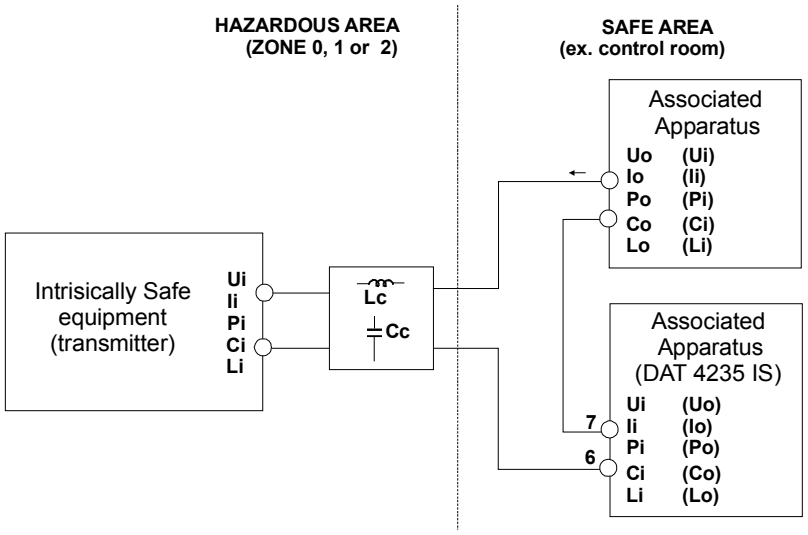
- The sum of equipments equivalent capacity (Ci) and connecting cable capacity (Cc) must be lower than the admitted capacity (Co) of the equipment which them have been connected.

- The sum of equipments equivalent inductance (Li) and connecting cable inductance (Lc) must be lower than the admitted inductance (Lo) of the equipment which them have been connected.

Input sensor connection (TC, mV, Res. RTD, Pot.)



Connection of equipments supplied from external source (ex. current loop)



$Ui \geq Uo$	$\sum (Ci) + Cc \leq Co$
$Ii \geq Io$	$\sum (Li) + Lc \leq Lo$
$Pi \geq Po$	

Via monte Nero, 40/B – 21049 Tradate (VA) Italy - Phone: +39 (0)331841070 Fax:+39 (0)331841950 - e-mail:datexel@datexel.it - www.datexel.it