DIN rail mounting data acquistion, isolation, transmitter D7 line

Quick Guide • QG D7 - 1/11.09 • Cod. J30-478-1AD7 QG

ASCON TECNOLOGIC

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Configuration and setting Software

The instrument must be configured using **Controller Explorer** (a propietary free software). The most recent release of Controller Explorer is downloadable from our web site:

www.ascontecnologic.com

To download the file access click on the banner: **ascon**
Select: **Download/Software**

Note: The first time you access the Download/Software area, you are requested to register yourself to the site. Press the **"Register"** key and follow the instructions displayed.

Search and download the file:
Ascon_SW_CE_Xnn.zip (**Xnn** identifies the release).
The default communications parameters are: transmission speed: **9600 bps**; protocol: **ModBus**; serial address: **247**

Warning! When more controllers/instruments are to be installed, keep in mind that the default serial address **always** is 247.
For this reason, always connect/power on only 1 not configured instrument a time, in order to avoid the presence, on the same network, of 2 instruments with the same address. During the configuration, assign to each instrument a different serial address.

The "*gammadue® and deltadue® controller series Serial communications and configuration software*" manual can be downloaded from the web site:
www.ascontecnologic.com (then click on: **ascon**)
Select: **Download/Documentation**, and fill the table with:

- Typology: **Manual**
- Type: **All**
- Language: **All**
- Code: **SERG2D2**

Click: **SEARCH** and download the file:
Ascon_MIU_SERIALE GAMMA2-DELTA2_RevXX_EN.zip
(**XX** identifies the revision number)

Declaration of conformity and manual retrival

Class II instrument, rear panel mounting. This controller has been designed with compliance to the European Directives.
Consult Declaration of Conformity for further details on Directives and Standards used for Compliance. Declaration of Conformity can be found in the file **ASCON_DC_D2.zip**.

All information about the controller are inserted in the manuals (**ASCON_MI_D7_EN.zip** and **ASCON_MU_D7_EN.zip**). The Declaration of Conformity and the manuals of the controller can be downloaded (free of charge) from the web-site:

www.ascontecnologic.com

Once connected to the web-site, click on the **ascon** logo.
Select: **Download/Documentation**, and fill the table with:
• Typology: **Manual**; Type: **All**; Language: **All**; Code: **DELTA2**
Click: **SEARCH** and

• Download the file: **ASCON_DC_D2.zip** (Declaration of Conformity of delta2 controllers)
ASCON_MI_D7_EN.zip (Installation)
or **ASCON_MU_D7_EN.zip** (User)

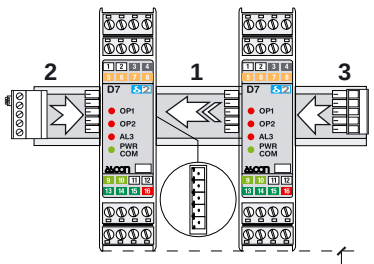
⚠ Warning!

- Whenever a failure or a malfunction of the device may cause dangerous situations for persons, things or animals, please remember that the plant must be equipped with additional devices which will guarantee safety.
- We warrant that the products will be free from defects in material and workmanship for 18 months from the date of delivery. Products and components that are subject to wear due to conditions of use, service life, and misuse are not covered by this warranty.

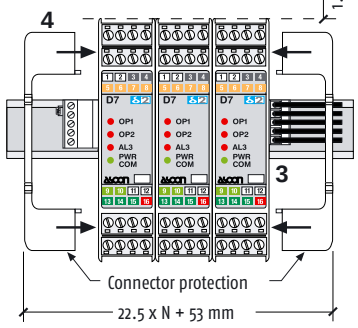
Mounting several instruments

1 Mounted the instruments on the rail, put them side by side so that the male side connector fits into the corresponding female connector

2 Then, insert the female 5-pole connector with the termination resistor of the serial communications into the corresponding male connector;

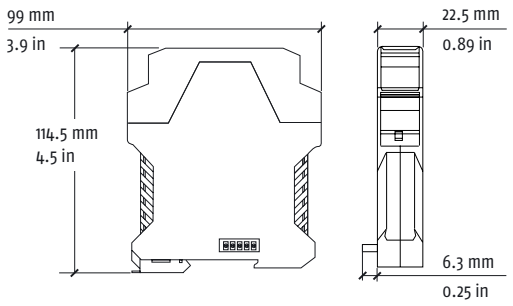


3 Wire the 5-pole male power supply and serial communications connector and insert it in the corresponding female connector

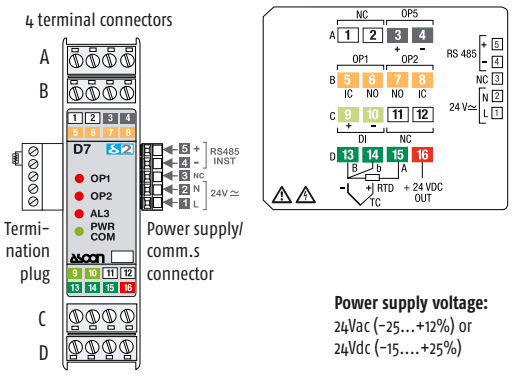


4 When assembled insert the connector protection on both sides.

Dimensions

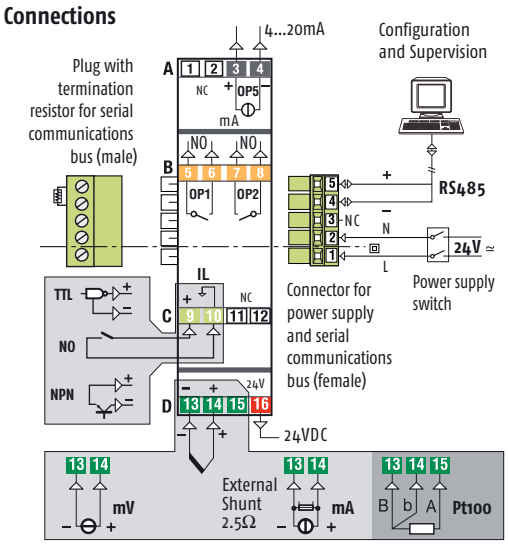


Terminal connectors



Power supply voltage:
24Vac (-25...+12%) or
24Vdc (-15....+25%)

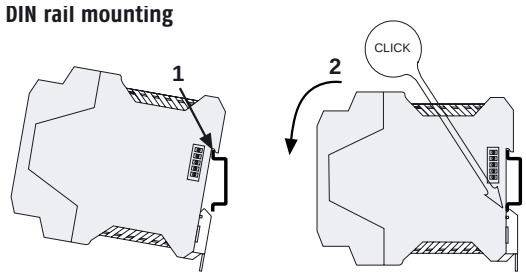
Connections



Terminals

Features		A - B - C - D	Bus/Power Supply
L	Stripped wire	L = 7 mm - 0.28 in.	L = 7 mm - 0.28 in.
	Flat blade screwdriver	0.6 x 3.5 mm	0.4 x 2.5 mm
	Tightening torque	0.5... 0.6 Nm	0.4... 0.5 Nm

DIN rail mounting

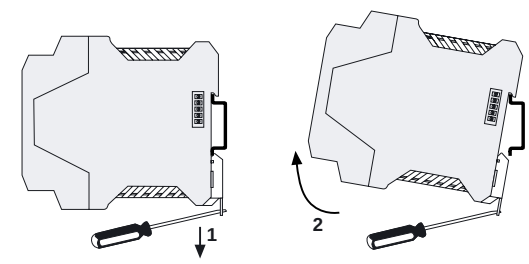


1 clip the upper part of the instrument on the rail

2 rotate the instrument downwards until the click

Removing the instrument from the DIN rail

Switch the instrument off



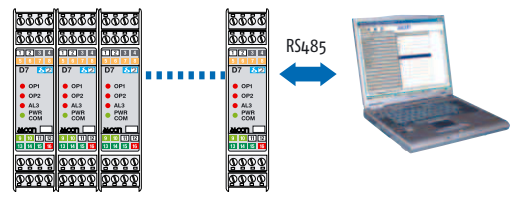
1 lower the spring slide by inserting a flat-blade screwdriver as indicated

2 turn and lift the instrument upwards.

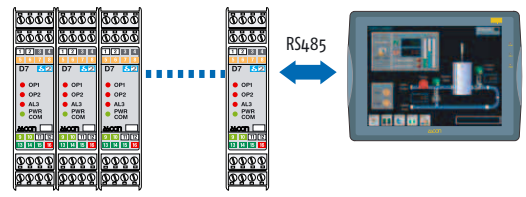
Serial communications connection examples

Configuration

Acquisition and centralized supervision



Local control



Model code

The product code indicates the specific hardware configuration of the instrument, that can be modified by specialized engineers only.

	Line	Basic	Accessories	Configuration 1st part	Configuration 2nd part
Model:	D7	5B5D	0900	ILMN	OPQR

Line	D	7

Output OP1 - OP2	B
None	0
Relay - Relay	1

Options	D
None	0
Analogue output (retransmission)	5

Configuration code

A 4 + 4 digits index code follows the model (letters from I... R). This code can be used to buy a pre-configured controller.

Input type and range			I	L
TR Pt100 IEC751	-99.9...300.0°C	-99.9...572.0°F	0	0
TR Pt100 IEC751	-200...600°C	-328...1112°F	0	1
TC L Fe-Const DIN43710	0...600°C	32...1112°F	0	2
TCJ Fe-Cu45% Ni IEC584	0...600°C	32...1112°F	0	3
TC T Cu-CuNi	-200 ...400°C	-328...752°F	0	4
TC K Chromel-Alumel IEC584	0...1200°C	32...2192°F	0	5
TC S Pt10%Rh-Pt IEC584	0...1600°C	32...2912°F	0	6
TC R Pt13%Rh-Pt IEC584	0...1600°C	32...2912°F	0	7
TC B Pt30%Rh-Pt6%Rh IEC584	0...1800°C	32...3272°F	0	8
TC N Nichrosil-Nisil IEC584	0...1200°C	32...2192°F	0	9
TC E Ni10%Cr-CuNi IEC584	0...600°C	32...1112°F	1	0
TC NI-NiMo18%	0...1100°C	32...2012°F	1	1
TC W3%Re-W25%Re	0...2000°C	32...3632°F	1	2
TC W5%Re-W26%Re	0...2000°C	32...3632°F	1	3
Dc input 0...50mV linear	Engineering units		1	4
Dc input 10...50mVlinear	Engineering units		1	5
Custom input range [1]			1	6

[1] For instance, other thermocouples types, ΔT (with 2 PT100), custom linearisation etc.

Alarm type and function	AL.	O 1	P 2	Q 3
Disabled		0	0	0
Sensor break/Loop Break Alarm (LBA)		1	1	1
Band	active out	2	2	2
	active in	3	3	3

Parameters list

In the table that follows are listd the parameters of the controller associated to the correspondent serial ModBus address. For further details, consult the manual: "*gammadue® and deltadue® controller series Serial communications and configuration software*".

Analogue

ModBus address	Parameter name	Value		
		Default	Modbus	User
0	PV process variable			
10	Low range			
11	High range			
12	AL2 alarm threshold	0	0	
13	AL3 alarm threshold	0	0	
14	AL2 alarm hysteresis	0.5	5	
15	AL3 alarm hysteresis	0.5	5	
36	Input filter	inhibited	0	
37	Input shift	inhibited	0	
42	Retransmission low range	low range		
43	Retransmission high range	high range		
56	AL1 alarm threshold	0	0	
57	AL1 alarm hysteresis	0.5	5	
58	AL1 latching and blocking	none	0	
59	AL2 latching and blocking	none	0	
60	AL3 latching and blocking	none	0	
61	LBA delay	inhibited	0	
62	Instrument position	single	0	
63	Read the first 16 coils on word (B.O.R. = Bit On Register)			

Digital

ModBus address	Command	Values
3	OP1 digital output status	0 = OFF, 1 = ON
4	OP2 digital output status	0 = OFF, 1 = ON
5	OP3 digital output status	0 = OFF, 1 = ON
6	Out of range	0 = Normal operation, 1 = Safety
11	Output status	0 = Not influenced, 1 = forced to OFF
12	IL Digital input status	0 = OFF, 1 = ON
15	Latching alarms acknowledge	1 = Acknowledges the alarm

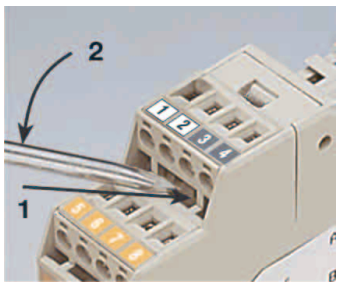
Estracting/Inserting the module from/In the housing

Extracting the module

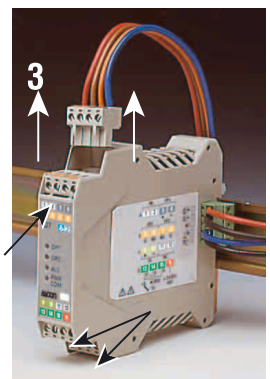
The electronic module of the instruments can be extracted from the housing in order to allow an easy maintenance, wiring and setting. For example, completed the wiring of the electrical panel, the instruments can be configured by extracting all the modules from the housings, then re-inserting a module at a time in order to set all the ModBus address with no overlaps and conficts.

1) Insert the blade of a flat blade screwdriver under the I/O polarised connectors;

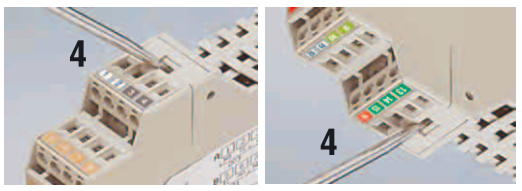
2) Moving the screwdriver as indicated, unplug the connector from the module;



3) Remove the connector and repeat these steps in order to unplug all the external connections;



4) With the blade of the screwdriver, press the two slots (at the top and bottom of the module) in order to free the I/O module from the housing;



5) Firmly grip the front panel in the terminal block area and pull the module outside the housing.

Re-inserting the module in the housing

In order to correctly re-insert the module in its housing, invert the previous extracting sequence, paying particular attention in inserting the printed circuit board in the slots present at the top and bottom of the case.