

CANopen Server 16 digital inputs

DAT 7148

FEATURES

- Field bus data acquisition
- CAN open protocol
- Baud rate and Node ID configurable by dip-switch
- 16 digital inputs
- LEDs of signalling for inputs status
- LEDs of signalling for power supply and error status
- 3 ways Galvanic Isolation
- Connection by removable screw terminals
- CE/UKCA mark
- DIN rail mounting in compliance with EN-50022



GENERAL DESCRIPTION

The device DAT 7148 is able to acquire up to 16 digital inputs. The data are transmitted by the CANopen protocol.

The connection is made by removable screw-terminals.

The device realizes a full electrical isolation between the lines, introducing a valid protection against the effects of all ground loops eventually existing in industrial applications. The device is housed in a self-extinguishing plastic enclosure which, thanks to its thin profile of 22.5 mm only, allows a high density mounting on EN-50022 standard DIN rail.

USER INSTRUCTIONS

Before to install the device, please read the "Installation Instruction" section.

Connect power supply, serial bus and digital inputs as shown in the "Wiring" section.

The LEDs state depends on the working condition of the device: see the "Light Signalling" section to verify the device working state.

To simplify handling or replacing of the device, it is possible to remove the wired terminals even with the device powered.

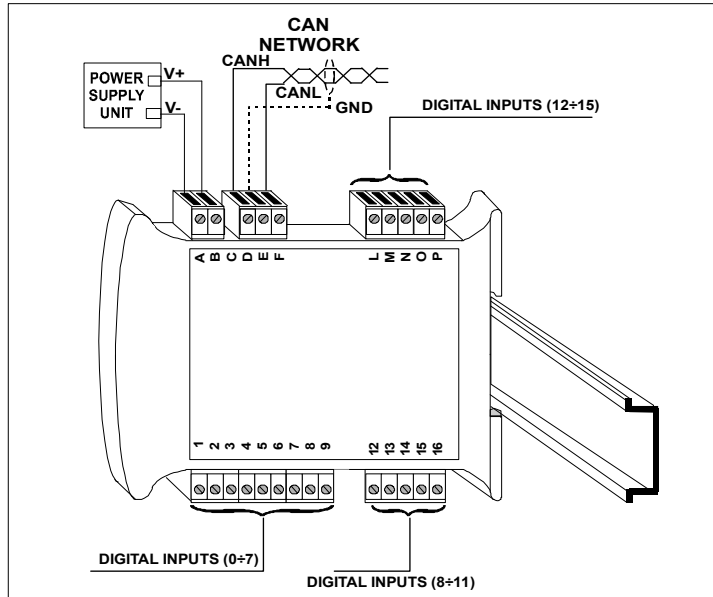
TECHNICAL SPECIFICATIONS (Typical @ 25 °C and in the nominal conditions)

DIGITAL INPUTS (WET CONTACTS)	CAN OPEN INTERFACE	GENERAL SPECIFICATIONS
Channels 16 Input voltage (bipolar) OFF State 0 ÷ 3 V ON State 10 ÷ 30 V N° of counters 8 @ 300 Hz (32 bits) Min. Pulse width 1 ms Impedance 4.7 KΩ Sample time 5 ms	Device profile in compliance with the CiA DS 301 and CiA DS 401 standards. Data Transmission Baud rate up to 1 Mbps Max. Distance in function of the Baud rate	Supply Voltage 10 .. 30 Vdc Polarity inversion protection 60 Vdc max Max. Consumption @24Vdc 45 mA Max Consumption 80 mA ISOLATION (test time 1 minute) Power Supply / CAN 2000 Vac, 50 Hz Inputs / Power supply 2000 Vac, 50 Hz Inputs / CAN 2000 Vac, 50 Hz ENVIRONMENTAL CONDITIONS Operative Temperature -10°C .. +60°C Storage Temperature -40°C.. +85°C Humidity (not condensed) 0 .. 90 % Maximum Altitude 2000 m Installation Indoor Category of installation II Pollution Degree 2 CONNECTIONS CAN interface Removable screw-terminals Outputs/Inputs Removable screw-terminals Power Supply Removable screw-terminals MECHANICAL SPECIFICATIONS Material Self-extinguish plastic IP Code IP20 Wiring wires with diameter 0.8÷2.1 mm² /AWG 14-18 Tightening Torque 0.8 N m Mounting in compliance with DIN rail standard EN-50022 Weight about 150 g. CERTIFICATIONS EMC (for the Industrial Environments) Immunity EN 61000-6-2 Emission EN 61000-6-4 UKCA (ref S.I. 2016 N°1091) Immunity BS EN 61000-6-2 Emission BS EN 61000-6-4

INSTALLATION INSTRUCTIONS

The device is suitable to be mounted on DIN rail, in vertical position. For a correct working and a long life of the device, read the following indications. In case of the devices are mounted side by side, please leave a spacing of about 5mm between them if the temperature in the cabinet is higher than 45 °C and supply voltage >27Vdc. Avoid to place raceways or other objects which could obstruct the ventilation slits. It is suggested to avoid that devices are mounted above appliances generating heat; their ideal place should be in the lower part of the panel. Avoid to install the devices in a site where vibrations are present. It is recommended to use shielded cable for connecting signals. The shield must be connected to an earth wire provided for this purpose. Moreover it is suggested to avoid routing conductors near power signal cables.

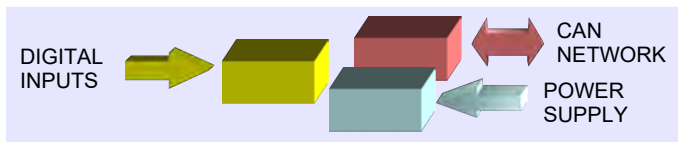
TERMINALS OVERVIEW



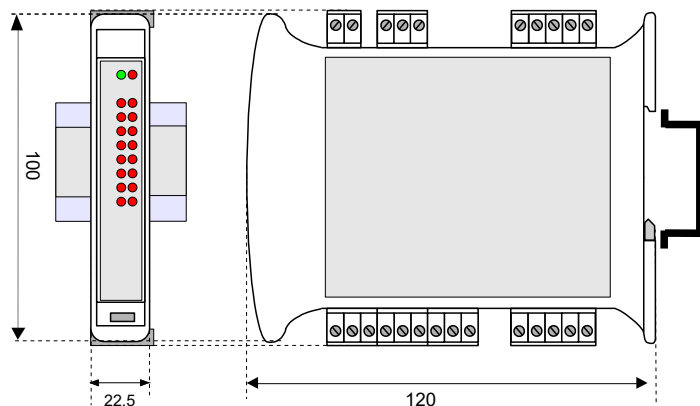
LIGHT SIGNALLING

LED	COLOUR	STATE	DESCRIPTION
RUN	GREEN	ON	Device in Operational mode
		BLINKING	Device in Pre-Operational mode
		SLOW BLINKING	Device stopped
ERR	RED	OFF	No error
		BLINKING	Communication error
In	RED	ON	State 1 Digital Inputs.
		OFF	State 0 Digital Inputs.

ISOLATION STRUCTURE



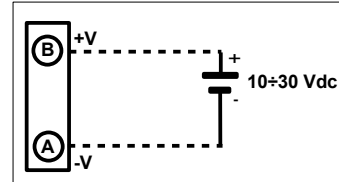
MECHANICAL DIMENSIONS (mm)



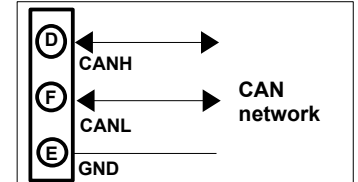
The symbol reported on the product indicates that the product itself must not be considered as a domestic waste. It must be brought to the authorized recycle plant for the recycling of electrical and electronic waste. For more information contact the proper office in the user's city, the service for the waste treatment or the supplier from which the product has been purchased.

WIRING

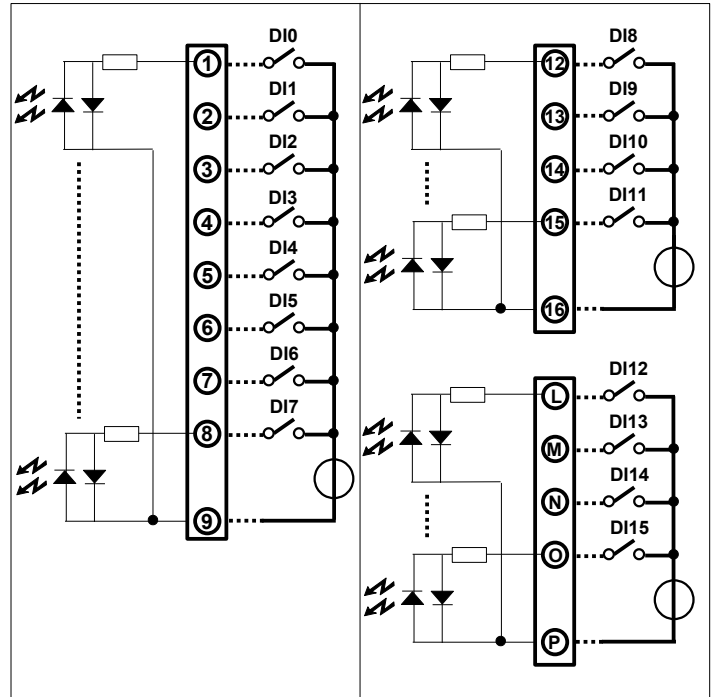
POWER SUPPLY



CAN NETWORK



DIGITAL INPUTS



NOTES: Input channels are not insulated between them

DIP-SWITCH CONFIGURATION TABLE

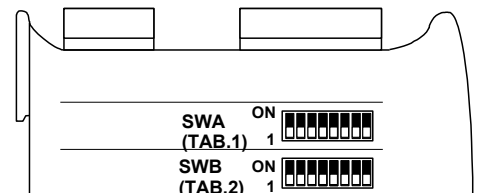
TAB.1 Address setting 1÷127
(Pos.1 LSB; Pos.7 MSB)

SWA	1	2	3	4	5	6	7	Nodo ID
1	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	1	2
3	0	0	0	0	0	1	0	3
4	0	0	0	0	0	1	1	4
5	0	0	0	0	1	0	0	5
6	0	0	0	0	1	0	1	6
7	0	0	0	0	1	1	0	7
8	0	0	0	1	0	0	0	8
9	0	0	0	1	0	0	1	9
10	0	0	0	1	0	1	0	10
11	0	0	0	1	0	1	1	11
12	0	0	0	1	1	0	0	12
13	0	0	0	1	1	0	1	13
14	0	0	0	1	1	1	0	14
15	0	0	0	1	1	1	1	15
16	0	0	1	0	0	0	0	16
17	0	0	1	0	0	0	1	17
18	0	0	1	0	0	1	0	18
19	0	0	1	0	0	1	1	19
20	0	0	1	0	1	0	0	20
21	0	0	1	0	1	0	1	21
22	0	0	1	0	1	1	0	22
23	0	0	1	0	1	1	1	23
24	0	0	1	1	0	0	0	24
25	0	0	1	1	0	0	1	25
26	0	0	1	1	0	1	0	26
27	0	0	1	1	0	1	1	27
28	0	0	1	1	1	0	0	28
29	0	0	1	1	1	0	1	29
30	0	0	1	1	1	1	0	30
31	0	0	1	1	1	1	1	31
32	0	1	0	0	0	0	0	32
33	0	1	0	0	0	0	1	33
34	0	1	0	0	0	1	0	34
35	0	1	0	0	0	1	1	35
36	0	1	0	0	1	0	0	36
37	0	1	0	0	1	0	1	37
38	0	1	0	0	1	1	0	38
39	0	1	0	0	1	1	1	39
40	0	1	0	1	0	0	0	40
41	0	1	0	1	0	0	1	41
42	0	1	0	1	0	1	0	42
43	0	1	0	1	0	1	1	43
44	0	1	0	1	1	0	0	44
45	0	1	0	1	1	0	1	45
46	0	1	0	1	1	1	0	46
47	0	1	0	1	1	1	1	47
48	0	1	1	0	0	0	0	48
49	0	1	1	0	0	0	1	49
50	0	1	1	0	0	1	0	50
51	0	1	1	0	0	1	1	51
52	0	1	1	0	1	0	0	52
53	0	1	1	0	1	0	1	53
54	0	1	1	0	1	1	0	54
55	0	1	1	0	1	1	1	55
56	0	1	1	1	0	0	0	56
57	0	1	1	1	0	0	1	57
58	0	1	1	1	0	1	0	58
59	0	1	1	1	0	1	1	59
60	0	1	1	1	1	0	0	60
61	0	1	1	1	1	0	1	61
62	0	1	1	1	1	1	0	62
63	0	1	1	1	1	1	1	63
64	1	0	0	0	0	0	0	64
65	1	0	0	0	0	0	1	65
66	1	0	0	0	0	1	0	66
67	1	0	0	0	0	1	1	67
68	1	0	0	0	1	0	0	68
69	1	0	0	0	1	0	1	69
70	1	0	0	0	1	1	0	70
71	1	0	0	0	1	1	1	71
72	1	0	0	1	0	0	0	72
73	1	0	0	1	0	0	1	73
74	1	0	0	1	0	1	0	74
75	1	0	0	1	0	1	1	75
76	1	0	0	1	1	0	0	76
77	1	0	0	1	1	0	1	77
78	1	0	0	1	1	1	0	78
79	1	0	0	1	1	1	1	79
80	1	0	1	0	0	0	0	80
81	1	0	1	0	0	0	1	81
82	1	0	1	0	0	1	0	82
83	1	0	1	0	0	1	1	83
84	1	0	1	0	1	0	0	84
85	1	0	1	0	1	0	1	85
86	1	0	1	0	1	1	0	86
87	1	0	1	0	1	1	1	87
88	1	0	1	1	0	0	0	88
89	1	0	1	1	0	0	1	89
90	1	0	1	1	0	1	0	90
91	1	0	1	1	0	1	1	91
92	1	0	1	1	1	0	0	92
93	1	0	1	1	1	0	1	93
94	1	0	1	1	1	1	0	94
95	1	0	1	1	1	1	1	95
96	1	1	0	0	0	0	0	96
97	1	1	0	0	0	0	1	97
98	1	1	0	0	0	1	0	98
99	1	1	0	0	0	1	1	99
100	1	1	0	0	1	0	0	100
101	1	1	0	0	1	0	1	101
102	1	1	0	0	1	1	0	102
103	1	1	0	0	1	1	1	103
104	1	1	0	1	0	0	0	104
105	1	1	0	1	0	0	1	105
106	1	1	0	1	0	1	0	106
107	1	1	0	1	0	1	1	107
108	1	1	0	1	1	0	0	108
109	1	1	0	1	1	0	1	109
110	1	1	0	1	1	1	0	110
111	1	1	0	1	1	1	1	111
112	1	1	1	0	0	0	0	112
113	1	1	1	0	0	0	1	113
114	1	1	1	0	0	1	0	114
115	1	1	1	0	0	1	1	115
116	1	1	1	0	1	0	0	116
117	1	1	1	0	1	0	1	117
118	1	1	1	0	1	1	0	118
119	1	1	1	0	1	1	1	119
120	1	1	1	1	0	0	0	120
121	1	1	1	1	0	0	1	121
122	1	1	1	1	0	1	0	122
123	1	1	1	1	0	1	1	123
124	1	1	1	1	1	0	0	124
125	1	1	1	1	1	0	1	125
126	1	1	1	1	1	1	0	126
127	1	1	1	1	1	1	1	127

TAB.2 Bit rate setting
(Pos.5 LSB; Pos.8 MSB)

SWB	5	6	7	8	Bit rate
1	0	0	0	0	10 Kbps
2	0	0	0	1	20 Kbps
3	0	0	1	0	50 Kbps
4	0	0	1	1	125 Kbps
5	0	1	0	0	250 Kbps
6	0	1	0	1	500 Kbps
7	0	1	1	0	800 Kbps
8	0	1	1	1	1 Mbps

DIP-SWITCH POSITION



HOW TO ORDER

" DAT 7148 "