

Manual

DW108 / DW124
Draw wire system



CANopen®

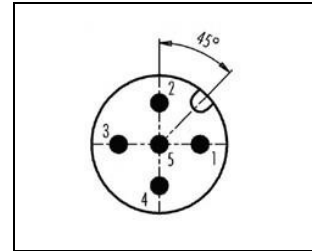
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1. CAN connections

M12 Connector	Description
1	CAN_GND
2	9-30 VDC Supply voltage
3	GND (0V)
4	CAN_High
5	CAN_Low



2. Short information about the CAN commands

2.1 PDO output DW108

COB-ID	Len	D0	D1	D2	D3
0x180 + ID	4	0xAA (LSB)	0xAA (MSB)	0xBB (LSB)	0xBB (MSB)
0x280 + ID	4	0xZ1 (LSB)	0xZ1 (MSB)	0xZ2 (LSB)	0xZ2 (MSB)

2.2 PDO output DW124

COB-ID	Len	D0	D1	D2	D3	D4	D5	D6	D7
0x180 + ID	4	0xAA (LSB)	0xAA (MSB)	0xBB (LSB)	0xBB (MSB)	0x00	0x00	0x00	0x00
0x280 + ID	4	0xZ1 (LSB)	0xZ1 (MSB)	0xZ2 (LSB)	0xZ2 (MSB)	0x00	0x00	0x00	0x00

P provides the current position depending on the setting made, in a resolution of e.g. 0.1 mm steps. Suffixes "0xAA" and "0xBB" represent the channels "A" and "B".

Example:

For a resolution of 0.1 mm.

P0 = 0x10, P1 = 0x27

P = 0x00002710 (10000 decimal) = 1000 mm

Channel B behaves the same way, but typically in the reverse order. This means that the "zero" position has the value 4700 mm and the end position has the value 0.

2.3 Factory setting

Type	Slave
ID	0x04
Baud rate	250 kbit/s

2.4 Network Management Services

2.4.1 Start remote mode

COB-ID	Len	D0	D1
0x000	2	0x01	ID

Operating state: Operational mode

2.4.2 Reset Node

COB-ID	Len	D0	D1
0x000	2	0x81	ID

Operating state: Preoperational mode

2.5 Baud rate SDO change¹

COB-ID	Len	D0	D1	D2	D3	D4	D5	D6	D7
0x600 + ID	8	0x2F	0x01	0x30	0x00	Node-ID	0x00	0x00	0x00

BR	Baud rate
0	1 Mbit/s
2	500 kbit/s
3	250 kbit/s
4	125 kbit/s
5	100 kbit/s
6	50 kbit/s
7	20 kbit/s
8	10 kbit/s

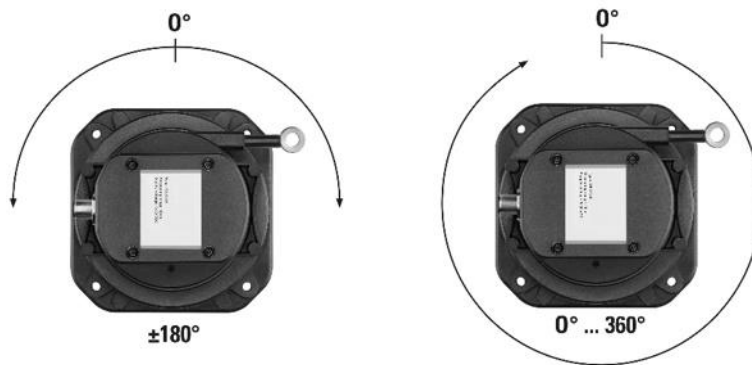
2.6 Node ID change¹

COB-ID	Len	D0	D1	D2	D3	D4	D5	D6	D7
0x600 + ID	8	0x2F	0x01	0x30	0x00	Node-ID	0x00	0x00	0x00

Node ID: 1...127

¹ NB: ID and baud rate changes become only effective after saving and new start.

3. Version with inclinometer



3.1 Setting and resetting the 0° point

	COB-ID	Len	D0	D1	D2	D3	D4	D5	D6	D7
Setting	0x600 + ID	8	0x2B	0x13	0x60	0x01	0x00	0x00	0x00	0x00
Resetting	0x600 + ID	8	0x2B	0x13	0x60	0x00	0x00	0x00	0x00	0x00

3.2 Direction change, inclinometer 1²

COB-ID	Len	D0	D1	D2	D3	D4	D5	D6	D7
0x600 + ID	8	0x2F	0x26	0x61	0x00	DR	0x00	0x00	0x00

DR	Direction
0	Clockwise (cw)
1	Counter Clockwise (ccw)

3.3 Direction change, inclinometer 2^{2, 3}

	COB-ID	Len	D0	D1	D2	D3	D4	D5	D6	D7
Setting	0x600 + ID	8	0x2F	0x28	0x61	0x00	0x01	0x00	0x00	0x00
Resetting	0x600 + ID	8	0x2F	0x28	0x61	0x00	0x00	0x00	0x00	0x00

² Changes become only effective after saving.

³ Only relevant when sensor is ordered with 2 inclinometers.

3.4 Reading the firmware version⁴

COB-ID	Len	D0	D1	D2	D3	D4	D5	D6	D7
0x600 + ID	8	0x41	0x0A	0x10	0x00	0x03	0x00	0x00	0x00

3.5 Switching between 180° and 360°⁴ (default 360°)

	COB-ID	Len	D0	D1	D2	D3	D4	D5	D6	D7
±180°	0x600 + ID	8	0x2F	0x27	0x61	0x00	0x01	0x00	0x00	0x00
360°	0x600 + ID	8	0x2F	0x27	0x61	0x00	0x00	0x00	0x00	0x00

3.6 Changing the cycle timer in [ms]⁴

COB-ID	Len	D0	D1	D2	D3	D4	D5	D6	D7
0x600 + ID	8	0x23	0x00	0x30	0x05	msCycleL	msCycleH	0x00	0x00

The cycle timer can have values from 20 to 500 ms.

Ex.: A cycle timer of 500 ms requires inputting a hexadecimal value.

Dec(500) = Hex(1F4)

→ D4 = F4

→ D5 = 01

3.7 Saving

COB-ID	Len	D0	D1	D2	D3	D4	D5	D6	D7
0x600 + ID	8	0x23	0x10	0x10	0x01	0x73	0x61	0x76	0x65

⁴ Changes become only effective after saving.



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