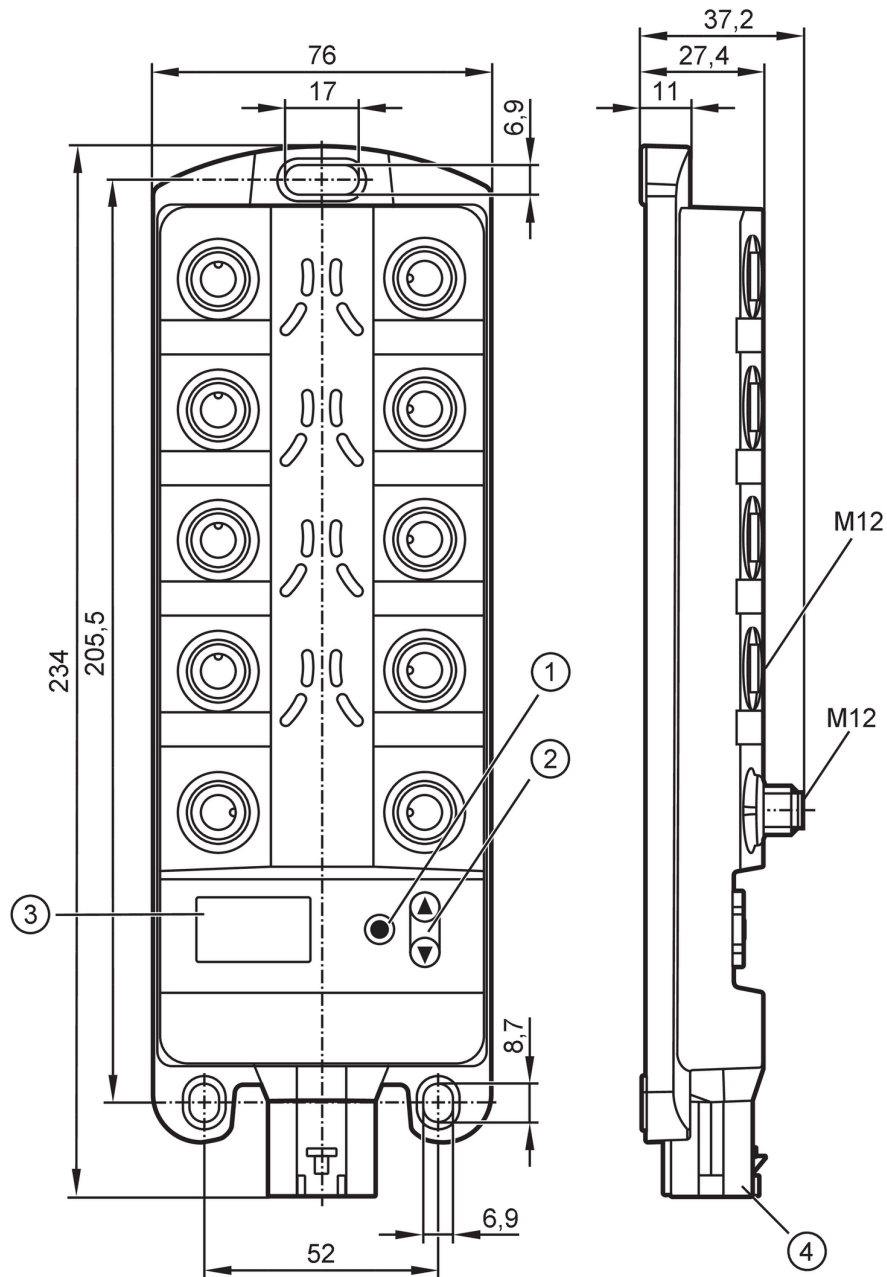


CR2042



I/O modules for mobile machines

ioControl/In 8/Out 8/M12



- 1 pushbutton ENTER
- 2 Pushbuttons UP/DOWN
- 3 10-segment display
- 4 AMP connector



Application

Special feature: gold-plated contacts

Electrical data

Operating voltage	[V]	8...32 DC
Nominal voltage DC	[V]	12 / 24
Current consumption	[mA]	188; (24 V DC: 105 mA; maximum: 300 mA)
Reverse polarity protection		yes
Overvoltage protection		yes; (36 V: t ≤ 10 s)



I/O modules for mobile machines

ioControl/In 8/Out 8/M12

Inputs / outputs	
Total number of inputs and outputs	16
Number of inputs and outputs	Number of digital inputs: 8; Number of analog inputs: 4; Number of frequency inputs: 4; Number of resistor inputs: 4; Number of digital outputs: 8
Inputs	
Total number of inputs	8
Number of frequency inputs	4
Number of resistor inputs	4
Number of digital inputs	8
Number of analog inputs	4
Analog input (current) [mA]	0...20
Analog input (voltage) [V]	0...32
Outputs	
Total number of outputs	8
Number of digital outputs	8
Short-circuit protection	yes
Short-circuit proof	yes
Number of PWM outputs	8
Number of PWM-I outputs	8
Software / programming	
Parameter setting options	CODESYS 2.3
PLC function to IEC 61131-3	yes
Interfaces	
Communication interface	CAN
Number of CAN interfaces	2
Transmission rate	20 kBit/s... 1 MBit/s
Protocol	CANopen; SAE J1939; free protocol
Profile	CiA DS 301 Version 4; CiA DS 401 Version 1.4
Interface	CAN Interface 2.0 A/B ISO 11898
Factory settings	CAN1: 250 kBit/s CAN2: 250 kBit/s
Operating conditions	
Ambient temperature [°C]	-40...85
Storage temperature [°C]	-40...85
Max. relative air humidity [%]	90; (non condensing)
Max. height above sea level [m]	2000
Protection	IP 65; IP 67
Degree of soiling	2



I/O modules for mobile machines

ioControl/In 8/Out 8/M12

Tests / approvals		
EMC	UN/ECE-R10 Noise emission and noise interference:	100 V/m
	DIN EN 61000-6-2 ESD	
	DIN EN 61000-6-4 Burst	
	ISO 7637-2 pulse 1	severity level 4 / function state C (24 V)
	ISO 7637-2 pulse 2a	severity level 4 / function state A (24 V)
	ISO 7637-2 pulse 2b	severity level 4 / function state C (24 V)
	ISO 7637-2 pulse 3a	severity level 4 / function state A (24 V)
	ISO 7637-2 pulse 3b	severity level 4 / function state A (24 V)
	ISO 7637-2 pulse 4	severity level 4 / function state B (24 V)
	ISO 7637-2 pulse 5	severity level 3 / function state C (24 V)
ISO 7637-2 pulse 4	severity level 3 / function state C (12 V)	
Continuous shock resistance	ISO 16750-3	30 g 6 ms / 24000 shocks
Fast temperature changes	EN 60068-2-30 damp heat: cyclical	55 °C upper temperature limit / 6 cycles
	EN 60068-2-78 damp heat: constant	40 °C 93 % rH / test period 21 days
Vibration resistance	ISO 16750-3 Test VII	random, mounting place car body
	EN 60068-2-6 Sinus	10...500 Hz / 10 cycles/axis, sine
MTTF	[years]	88

Mechanical data		
Weight	[g]	652.35
Housing		rectangular
Type of mounting		Backplane mounting
Dimensions	[mm]	234 x 76 x 37.2
Material		housing: PA6/6.6; Display: PA; Pushbuttons: silicone

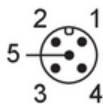
Displays / operating elements		
Display	function and status display	LEDs, multi-color
	setting parameters	10-segment LED display, red/green 4-digit
Operating elements	navigation	pushbuttons

Hardware		
Processor		Freescale PowerPC 50 MHz
Working memory		592 kByte
Mass storage		1536 kByte Flash / 1 kByte FRAM

Remarks		
Pack quantity		1 pcs.

Electrical connection - CAN IN

Connector: 1 x M12; coding: A; Contacts: 5, gold-plated



CAN IN	
1	Shield
2	V_CAN
3	GND_CAN
4	CAN1_H
5	CAN1_L

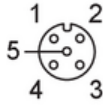


I/O modules for mobile machines

ioControl/In 8/Out 8/M12

Electrical connection - CAN OUT

Connector: 1 x M12; coding: A; Contacts: 5, gold-plated

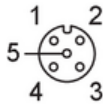


CAN OUT

1	Shield
2	V_CAN
3	GND_CAN
4	CAN1_H
5	CAN1_L

Electrical connection - inputs / outputs

Connector: 8 x M12; coding: A; Contacts: 5, gold-plated



Inputs Con. 1, 3, 5, 7

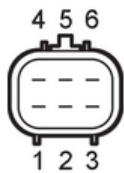
1	VBBs
2	INn
3	GND1
4	INn
5	n.c.

Outputs Con. 2, 4, 6, 8

1	n.c.
2	OUTn
3	GND2
4	OUTn
5	n.c.

Electrical connection - supply / CAN interface

Connector: 1 x AMP connector (TE-AMP 1745078-1); Contacts: tin-plated



X1

1	GND1
2	CAN2_L
3	GND2
4	VBBs
5	CAN2_H
6	VBB2