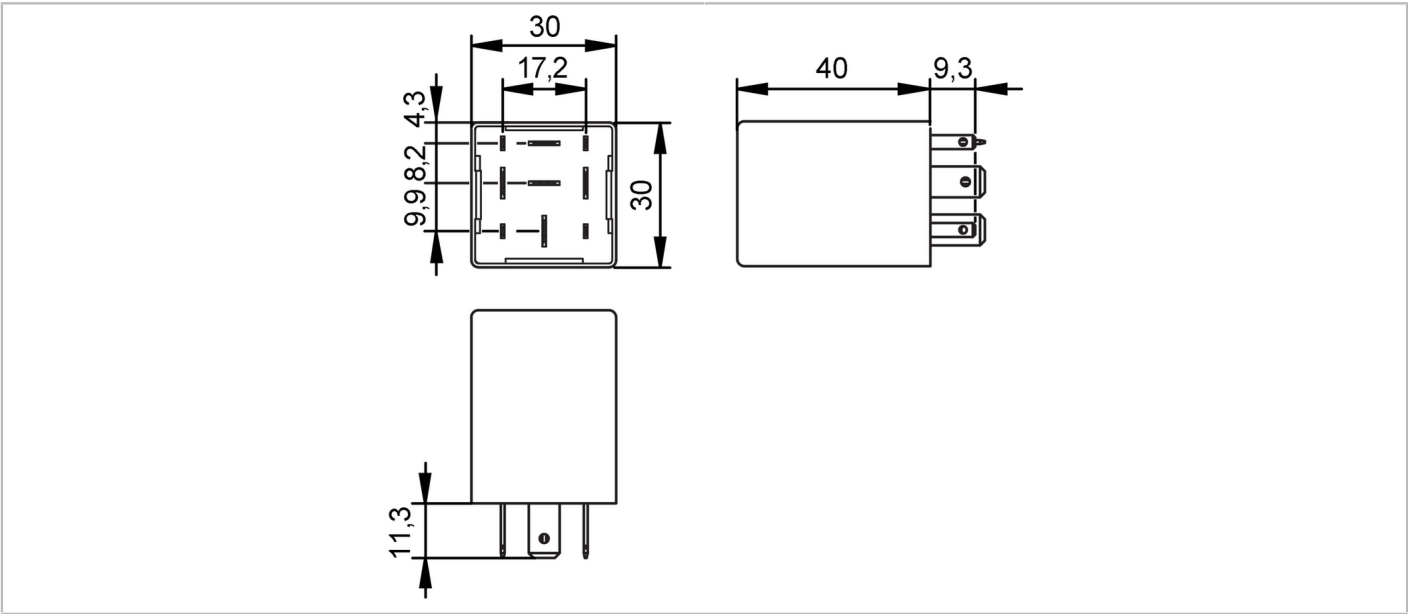




I/O modules for mobile machines

ecomatRelay/1HB10A



Application		
UV resistant		yes
Electrical data		
Operating voltage	[V]	8...32 DC
Nominal voltage DC	[V]	12 / 24
Current consumption	[mA]	< 25; (without motor control)
Power consumption	[W]	0.6; (24 V; without motor control)
Inputs / outputs		
Total number of inputs and outputs		4
Number of inputs and outputs		Number of digital inputs: 3; Number of analog inputs: 3; Number of outputs with H-bridge: 1
Inputs		
Total number of inputs		3
Number of digital inputs		3
Number of analog inputs		3
Analog		
Analog input	input range [V]	0...32
	input resistance [Ω]	66600
	Resolution	12 Bit
	Accuracy	± 29 mV
	input frequency [Hz]	< 44



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Digital		
Digital input	input range [V]	0...32
	Switching level high [V]	> 70 % VBB30
	Switching level low [V]	< 30 % VBB30
	Resolution	12 Bit
	Accuracy	± 29 mV
	input frequency [Hz]	< 44
	input resistance [Ω]	66600
Outputs		
Total number of outputs	1	
Permanent current rating of switching output DC [mA]	10000	
Short-time current rating of switching output [mA]	12000; (t ≤ 5 min.)	
Number of outputs with H-bridge	1	
H-Brücke		
Output	Voltage range [V]	8...32
	switching current [A]	0...10
	output frequency [Hz]	0...25500
	pulse/pause ratio	0...1000 ‰
	protective circuitry	inductive load; thermal protection
	current measurement [A]	0...12
	accuracy of the current measurement [A]	± 3
Diagnostic functions	\$Lasterkennung	
Software / programming		
Parameter setting options	Baud rate; CAN parameter; Direction of rotation; Frequency output; node ID; pulse/pause ratio	
Interfaces		
Communication interface	CAN	
Number of CAN interfaces	1	
Transmission rate	20 kBit/s... 1 MBit/s	
Protocol	CANopen	
Interface	CAN Interface 2.0 A/B ISO 11898-5	
Factory settings	Transmission rate: 250 kBit/s	
	node ID: 123	
Operating conditions		
Housing temperature [°C]	-40...85	
Storage temperature [°C]	-40...85	
Max. relative air humidity [%]	90; (non condensing)	
Max. height above sea level [m]	3500	
Protection	IP 67; (when mounted)	
Pollution degree	2	
UV radiation	DIN EN ISO 4892-2 (procedure A, cycle B1, 1000 h)	
Chemical media	ISO 16750-5	AA, BA, BD, CC, DB, DC, DD



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Tests / approvals		
EMC	DIN EN 61000-6-2 noise immunity	
	DIN EN 61000-6-4 noise emission	
	CISPR25 automotive radiated emission	
	ISO 11452 automotive immunity to disturbances	
	FCC Part 15B Class A	
	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 A (24 V)
	ISO 7637-2 pulse 5	severity level 3 / function state A (24 V)
	ISO 7637-2 pulse 4	severity level 4 / function state A (12 V)
Continuous shock resistance	ISO 16750-3	30 g 6 ms / 24000 shocks
Vibration resistance	ISO 16750-3 Test VII	random, mounting place car body
MTTF [years]		308
Mechanical data		
Weight [g]		77.8
Housing		rectangular
Type of mounting		vertical
Dimensions [mm]		30 x 30 x 40
Material		Housing: PA 6.6-GF30
Information on service life	max. mating cycles of the crimp contacts:	10
Hardware		
Processor		8-Bit; 40 MHz
Working memory		4 KByte RAM
Mass storage		60 KByte Flash
Non-volatile memory		2 kByte
Remarks		
Pack quantity		1 pcs.
Electrical connection		
1:	IN00	
2:	VBB30	
3:	IN01	
4:	IN02	
5:	OUT00	
6:	GND	
7:	CAN_H	
8:	OUT01	
9:	CAN_L	