Mobil Control System

Slave Modul
Series ELMR 201

- the extreme mechanical stresses that result from im-pacts and shock loadings
- low a. high ambient temperature while in operation
- the direct effects of dirt, water and dampness dur-ing field service
- the large voltage fluctuations that are found in bat-tery/ alternator systems
- severe interference effects, whether radiated or con-ductorlinked, on the entire electrical system

1 Description

The ELMR201 slave module is used as an expansion el-ement in Bucher CAN bus systems. The module has 8 out-puts that are available with or without current compensa-tion. The CANopen protocol is used to communicate with the Bucher master modules ELMR221 to ELMR224.

2 Technical data

2.1 Test standards and regulations

Characteristics	Descriptions, value, unit
Humidity test to IEC 68-2-30	≤ 90% rel. humidity, non-condensing
Mechanical resistance	vibration to IEC 68-2-6 shock to IEC 68-2-27 bump to IEC 68-2-29
Immunity to conducted interference	to DIN 40839 / part 1, pulses 1, 2, 3a, 3b (corresponds to ISO 7637) severity level 4, function state A
	to DIN 40839 / part 1, pulses 5 (corresponds to ISO 7637) severity level 1, function state C
	to DIN 40839 / part 3, pulses 1, 2, 3a, 3b (corresponds to ISO 7637) severity level 4, function state A
Immunity to interfering fields	guideline 95/54/EG to EN 50082-2
Interference emission	guideline 95/54/EG to EN 50081-1

2.2 8 digital / PWM outputs with integrated current measuring

Characteristics	Description, value, unit		
Housing	closed screened metal housing with flange fastening		
Dimensions (l x w x h)	132 x 43 x 153 mm		
Mounting	by means of 4 M5 x L screws to DIN 7500 or DIN 7984 mounting position horizontal or vertical to the mounting wall		
Connection	55-pin connector, latched, protected against reverse polarity; type AMP housing or Framatome AMP junior timer contacts, crimp connentions 0,5 / 2,5 mm^2		
Output	8		
can be configurated as	digital, positive switching (High-Side) PWM channel current-controlled channel		
switching current per output	max. 4 A (without current monitoring) max. 2 A (with current monitoring)		
total current	max. 16 A		
Operating voltage U_B	10 ... 30 V DC		
Current consumption	≤ 100 mA (without external load)		
Operating temperature	-40°C ... +85°C		
Storage temperature	-40°C ... +90°C		
Protection	IP 67 (protection for plugs, depending on cable processing)		
Interface	CAN interface 2.0 B, ISO 11898		
Baud rate	10 kBit/s ... 1 MBit/s (default 125 kBit/s)		
Communication profile	CANopen, CiA DS 301 version 3.0, CiA DS 401 version 1.4		
Node-ID	32 (Default)		
Status LED	two-colour LED (red/green)		
Operating status (status-LED)	LED colour	Flashing frequency	Description
if both faults occur simultaneously, the LED appears orange.	green	constantly off constantly on 2,0 Hz	no operating voltage CANopen: PRE-OPERATIONAL/ PREPARED CANopen: OPERATIONAL
	red	constantly on	communication fault

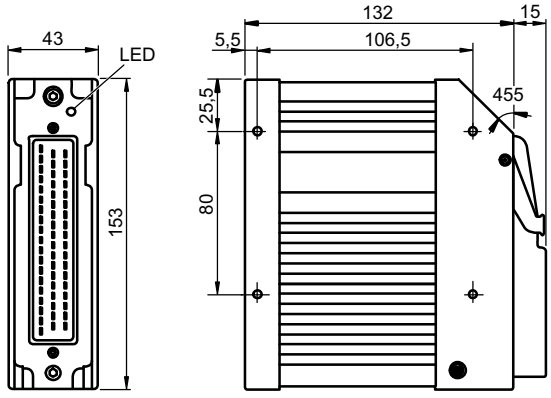
2.3 Outputs

Characteristics	Description, value, unit
Digital outputs	8 semi-conductor outputs, short-circuit and overload protection switching voltage 10...30 V DC switching current max. 4 A (without current monitoring) max. 2 A (with current monitoring) total current max. 16 A Current monitoring of 2 channels each can be selected by means of wire connection, the following channels are combined: 1+2, 3+4, 5+6, 7+8
PWM outputs	2 outputs each can be configured as PWM channel, the following channels are combined: 1+2, 3+4, 5+6, 7+8 PWM frequency 20...250 Hz pulse break ratio 1...1000% resolution 1% load current max. 4 A total current max. 16 A
Current outputs	2 outputs each can be configured as current channel, the following channels are combined: 1+2, 3+4, 5+6, 7+8 PWM frequency 20...250 Hz control range 0,1...2 A control resolution 2,5 mA setting resolution 1 mA precision ±2% FS load current max. 2 A min. load resistance 12Ω (for U_B = 24 V DC)
Note	digital and PWM/current output can be combined as a pair (see ”configuration examples” page 4)

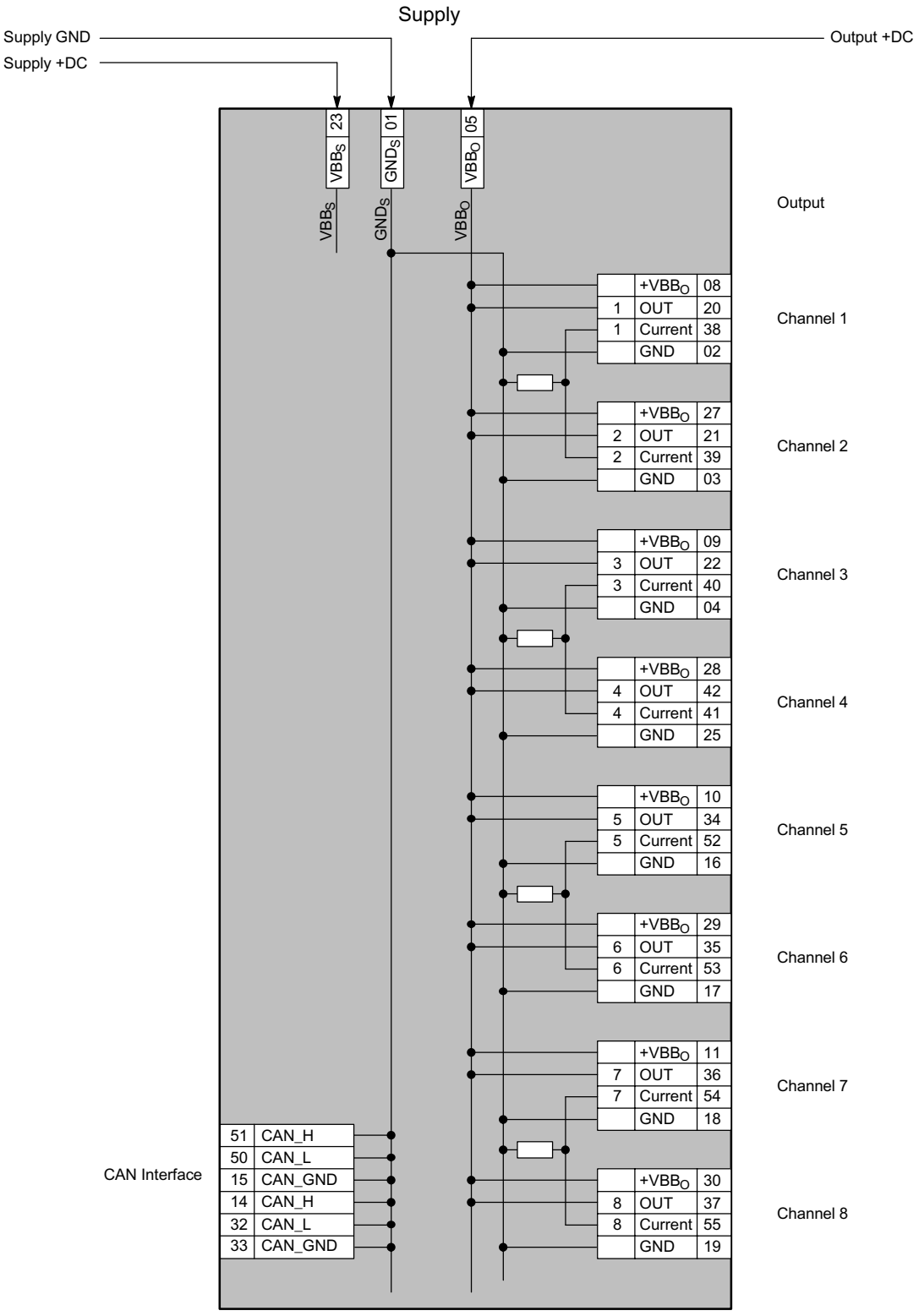
3 Ordering Code

ELMR201 - 00*** without software
Order-no: 100026517

4 Dimensions



5 Wiring



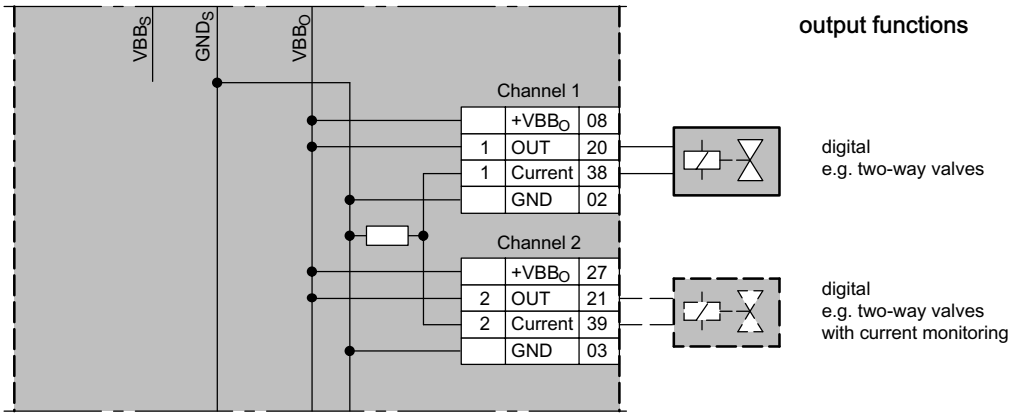
Explanation

CAN_H	=	CAN interface
CAN_L	=	CAN interface
PWM	=	output for pulse-width-modulated signals
VBB_O	=	operating voltage (Output)
VBB_S	=	operating voltage (Modul)

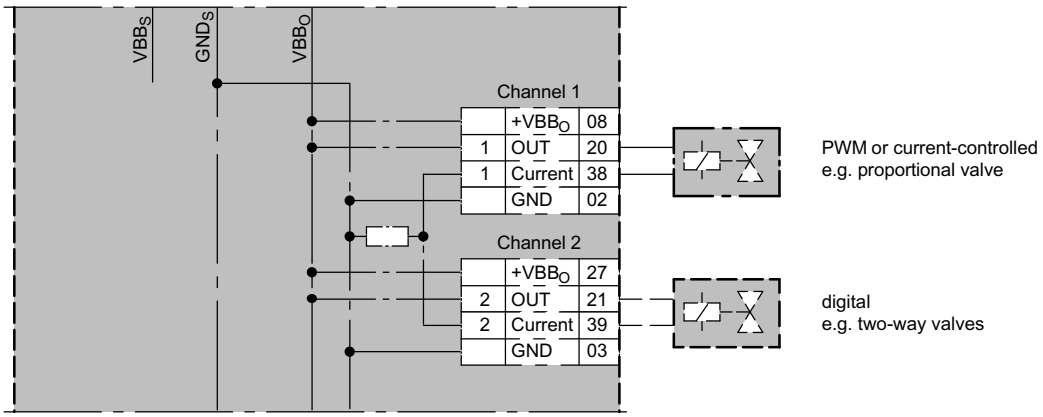
Before the voltage is applied please consider that the following pins must be connected to the respective potentials!

6 Configuration examples

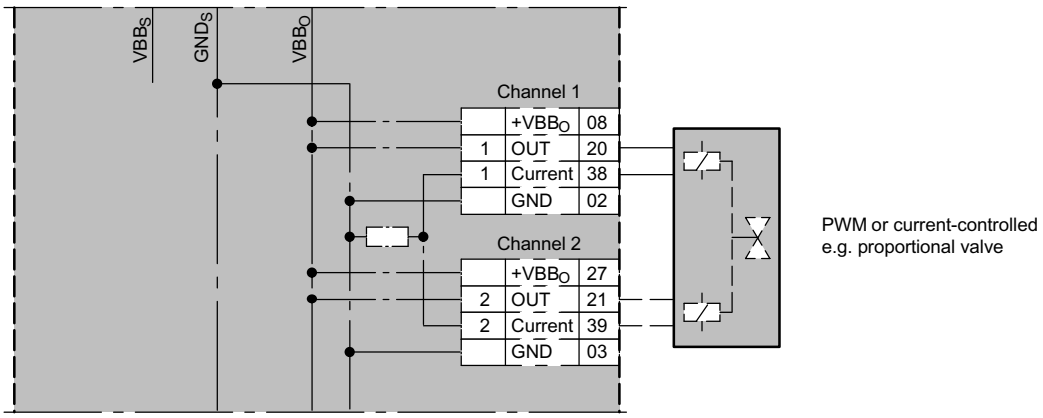
6.1 Example 1



6.2 Example 2



6.3 Example 3



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