BUCHER automation

JCM-X231

Controller



- 32-bit CPU > 200 MHz
- 2 CAN bus interfaces
- Programming in C/C++
- Withstands high total continuous current
- Configuration inputs for simplified multiple use
- Heavy-duty bridge outputs
- Temperature measurement input
- Potted housing

Description

The JetControlMobile X231 is a compact controller packed with a stunning amount of freely configurable inputs and outputs. It stands out thanks to the amply dimensioned half bridges, which are configured as full bridges and, if paralleled, supply up to 24 A of electricity. Short-circuit-proof reference and sensor supplies reduce the wiring effort. The built-in PT1000 temperature measurement input allows for the use fan controls for example. Programming is done in C/C++ via the STM32 CUBE IDE.

Technical specifications

CPU	STM32 F7
Programming	C/C++
Operating voltage range	DC 8 V ... 32 V, with separate ECU power supply
Operating/storage temperature	-40 °C ... +85 °C
CAN ports	2; e.g. for CANopen, SAE J1939, ISOBUS, ..., requires the corresponding stack
Max. amount of inputs/outputs	27
Inputs	
Analog	6; 0 ... 10 V/0 ... 20 mA, can be configured individually, resolution: 12 bits, input impedance: 35 kΩ, load resistor: 120 Ω
Thermal sensor inputs	1; PT1000
Digital/frequency	8; input impedance 5.6 kΩ; 0.1 Hz ... 10 kHz; NPN/PNP input, switchable via software
Outputs with diagnostic capabilities (short-circuit, cable break)	
PWM, precision current measuring	4; 3 A, 10 Hz ... 1.5 kHz, dithering, current-controlled, diagnostic capabilities, short-circuit-proof; alternative usage: active-low digital input, input impedance 10 kΩ, digital output 3 A
PWM, half bridge	8; 12 A, 10 Hz ... 15 kHz, diagnostic capabilities; short-circuit-proof; alternative usage: 2 half bridges connect to a full bridge to control DC motors (open-loop control), optional parallel connection
Sensor power supply	3 sensor supplies (of which 1 x 10 V reference output)
Max. permitted total current	26 A
Degree of protection	IP66
Vibration	ISO 16750-3
Shock	ISO 16750-3
Protection against polarity reversal	Yes
Certifications	E1 (ECE R10), CE ISO 14982
Output diagnostics	Short circuit, no-load

Pinout

X1

VBAT_PWR	1
VBAT_PWR	2
GND_PWR	3
GND_PWR	4

Pinout

X2

VBAT_PWR	1
VBAT_PWR	2
GND_PWR	3
GND_PWR	4

Pinout

X4

VBAT_ECU	1
CAN1_L	2
BOOTSEL	3
CAN1_H	4

Pinout

X5

VBAT_ECU	1
CAN1_L	2
GND	3
CAN1_H	4

Pinout

X6

OUT_VEXT_SEN_1	1
DI_1	2
GND_SEN	3
DI_2	4

Pinout

X7

OUT_VEXT_SEN_1	1
DI_3	2
GND_SEN	3
DI_4	4

Pinout

X8

OUT_VEXT_SEN_2	1
DI_5	2
GND_SEN	3
DI_6	4

Pinout

X9

OUT_VEXT_SEN_2	1
DI_7	2
GND_SEN	3
DI_8	4

Pinout

X10

OUT_VREF_SEN	1
AI_1	2
GND_SEN	3
AI_2	4

Pinout

X11

OUT_VREF_SEN	1
AI_3	2
GND_SEN	3
AI_4	4

Pinout

X12

NC	1
CFG_1	2
GND	3
NC	4

Pinout

X13

VBAT_ECU	1
AI_5	2
GND_SEN	3
AI_6	4

Pinout

X14

GND_PWR	1
PWMI_HL12_1	2
GND_PWR	3
PWMI_H12_2	4

Pinout

X15

GND_PWR	1
PWMI_HL12_5	2
GND_PWR	3
PWMI_HL12_6	4

Pinout

X16

VBAT_ECU	1
PWMI_H3_1	2
GND_PWR	3
PWMI_H3_2	4

Pinout

X17

-	1
AI_PT1000	2
GND_PT1000	3
-	4

Pinout

X18

GND_PWR	1
PWMI_HL12_3	2
GND_PWR	3
PWMI_HL12_4	4

Pinout

X19

GND_PWR	1
PWMI_HL12_7	2
GND_PWR	3
PWMI_HL12_8	4

Pinout

X20

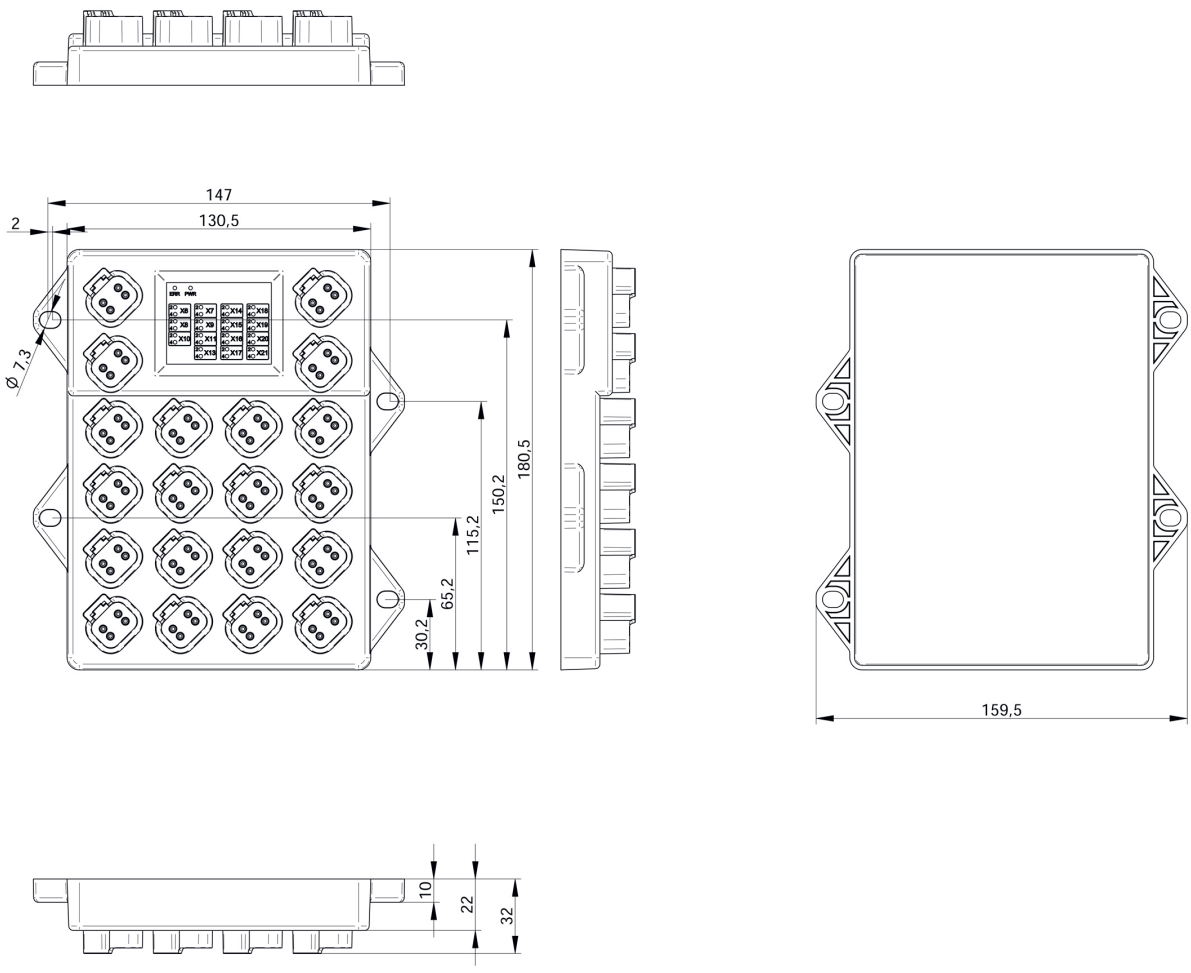
VBAT_ECU	1
PWMI_H3_3	2
GND_PWR	3
PWMI_H3_4	4

Pinout

X21

VBAT_ECU	1
CAN2_L	2
GND	3
CAN2_H	4

Dimensional drawing



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Further details and order information are available on request. Specifications are subject to change without notice. Errors and omissions excepted.

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