

ICCS – Intelligent Control and Command Systems



CAN I/O sealed

ICCS CAN I/O sealed – Use as graphical programmable controller for mobile machines and for use in harsh environments.

The electronics has been placed in a compact plastic housing with sealed connector to achieve ingress protection class IP68. Digital information, analogue voltages and currents can be detected as input signals for processing. Two proportional valves can be controlled by pulse width modulated outputs (PWM). The valve current is detected by an integrated current measurement and can be accurately controlled. Four more proportional outputs are available with a PWM control signal. Above the high side current sensing the output current is feedback.

Applications

- Graphically programmable control unit for mobile applications
- Input and output extensions for CAN bus systems
- Independent PLC-mini control system
- Connection of binary and analog sensors via the CAN bus

Technical data

General information	
Housing	Waterproof plastic housing with connector
Connector	Sicma 211 PL249S0005
Dimensions	95 x 77.3 x 34.6 mm
Weight	~170 g
Operating temperature	-40 °C to 85 °C (no full load at 85 °C)
Storage temperature	-40 °C to 85 °C
Ingress protection	IP 68
EMC	E1
Operating voltage V _{supply}	9-30 V DC
Pre-fusing	20 A
Current consumption	30 mA
Quiescent current	<1 mA
Processor type	Freescale HCS08 DZ60
Clock frequency	40 MHz
Flash memory	60 kB
RAM	4 kB
EEPROM	1 kB available for graphical programming

CAN Bus

acc. ISO 11898-2	High speed
acc. CAN 2.0 B	29 Bits extended address identifier
acc. CAN 2.0 A	11 Bits address identifier
Baud rate	20 kBit/s to 500 kBit/s (125 kBit/s default value)

Inputs / outputs overview

6	Analogue inputs	Pull-up/down adjustable via software
2	Digital inputs	(ID & KL15) KL15 Wake-up Input
2	Analogue inputs or Digital outputs	Integrated power measurement adjustable if pin programmed as an output
4	Analogue inputs or PWM outputs	High side power measurement possible if pin programmed as an output
2	Analogue inputs or PWM outputs	Integrated power measurement adjustable if pin programmed as an output

Inputs / outputs details

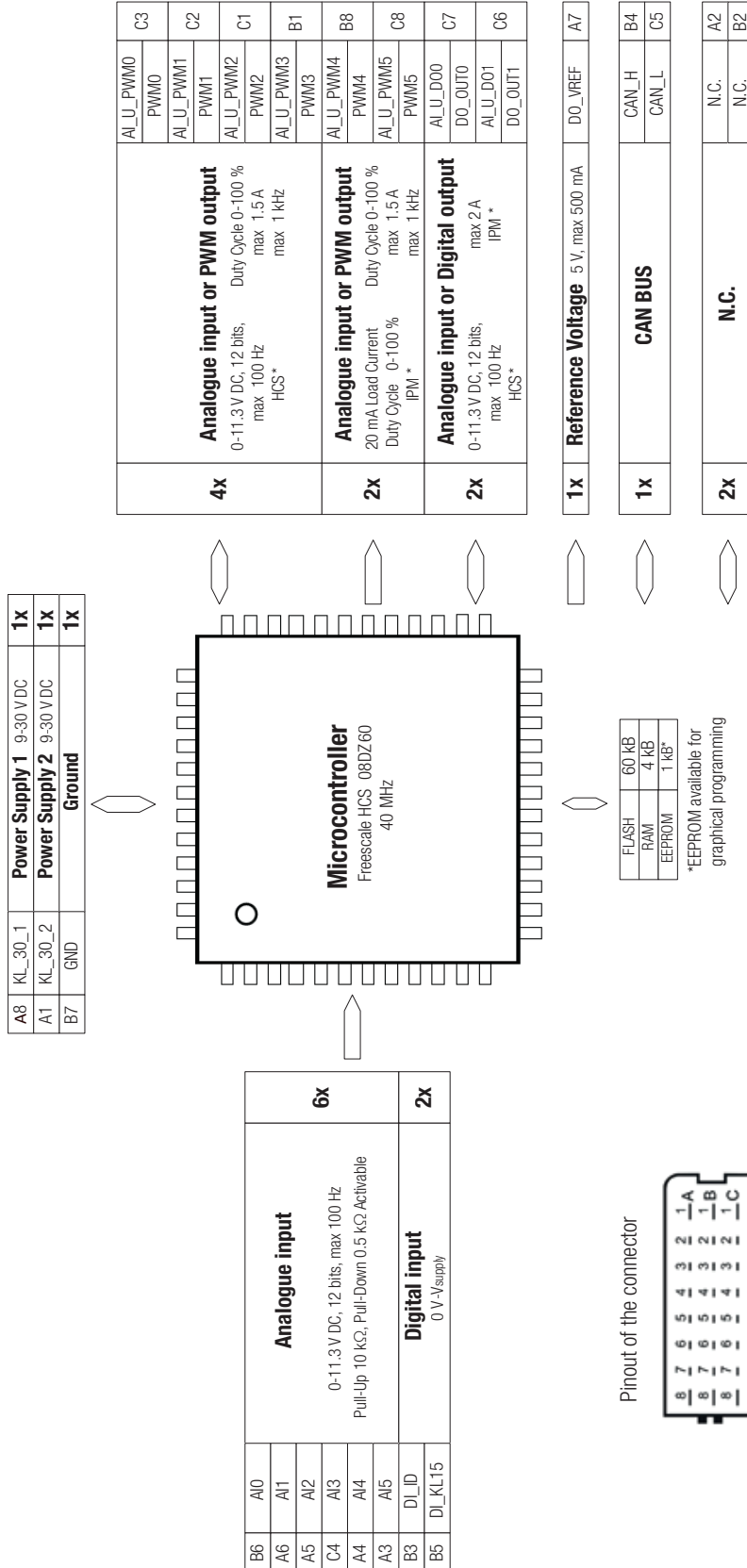
Analogue inputs	
Input Voltage max	V _{supply}
Measuring range	0-11.3 V DC
Resolution	12 Bit
Input resistance	22.6 kΩ / 33.68 kΩ on KI.30
Pull-up resistance	10 kΩ switchable via software
Pull-down resistance	0.5 kΩ switchable via software
Input frequency	max. 100 Hz
Digital inputs	
Input voltage max	V _{supply}
Switch-on level	7 V DC
Switch-off level	4.5 V DC
Input resistance	22.6 kΩ
Input frequency	max 100 Hz
Digital outputs	
Load current / Duty cycle	2.5 A / Double switching current for max 5 minutes
Protection	freewheeling diode
PWM outputs	
PWM frequency	max 1 kHz
Duty cycle	0...100 %
Resolution	Depends on frequency
Load current / Overload resistance	1.5 A / Double switching current for max 5 minutes
Protection	freewheeling diode

* Every analogue input is also usable as a digital input in the programming software

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Hardware Map



*HCS: Highside Current Sense
*IPM: Integrated Power Measurement

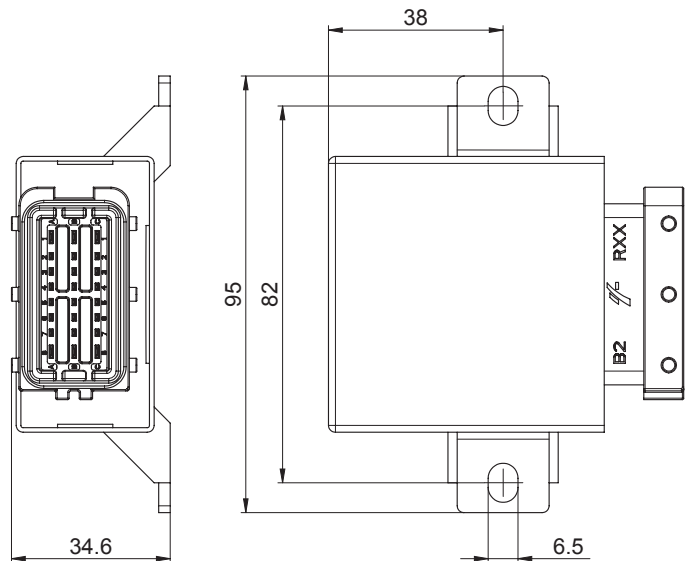
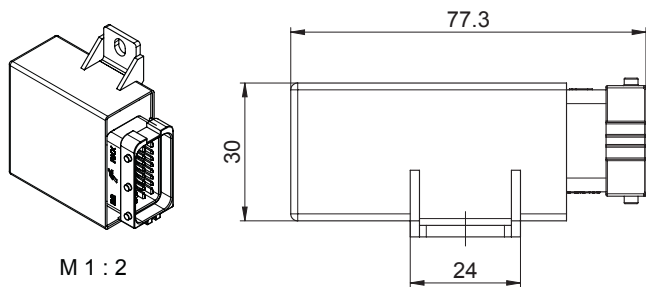
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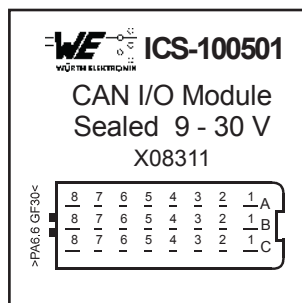
Pin assignment

Connector CAN I/O sealed		
PIN	Description	Function
A1	KL30_2	Power Supply for B1, C1, C2, C3 / Analogue input
A2		N.C.
A3	AI5	Analogue input 0-10 V DC
A4	AI4	Analogue input 0-10 V DC
A5	AI2	Analogue input 0-10 V DC
A6	AI1	Analogue input 0-10 V DC
A7	VREF_OUT	Vref output (optional)
A8	KL30_1	Power Supply for B8, C6, C7, C8 / Analogue input
B1	PWM3	PWM output
	AI_U_PWM3	Analogue input 0-10 V DC
B2		N.C.
B3	DI_ID	Ident-Pin Digital input
B4	CAN_H	CAN Bus High
B5	KL15	Digital input
B6	AI0	Analogue input 0-10 V DC
B7	GND	Ground KL 31
B8	PWM4	PWM output
	AI_U_PWM4	Analogue input 0-10 V DC

Connector CAN I/O sealed		
PIN	Description	Function
C1	PWM2	PWM output
	AI_U_PWM2	Analogue input 0-10 V DC
C2	PWM1	PWM output
	AI_U_PWM1	Analogue input 0-10 V DC
C3	PWM0	PWM output
	AI_U_PWM0	Analogue input 0-10 V DC
C4	AI3	Analogue input 0-10 V DC
C5	CAN_L	CAN Bus Low
C6	DO_OUT1	Digital output
C7	AI_U_PWM7	Analogue input 0-10 V DC
	DO_OUT0	Digital output
C8	AI_U_PWM6	Analogue input 0-10 V DC
	PWM5	PWM output
	AI_U_PWM5	Analogue input 0-10 V DC



Pinout of the connector



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Ordering information

Available references	Part number WE ICS
ICCS CAN I/O sealed without Vref	ICS-100501
ICCS CAN I/O sealed with Vref = 5V DC	ICS-101047

Mating connector	Part number FCI
Housing: FCI SICMA: 24 Pins (18 x 1.5mm + 6 x 2.8mm), female	211 PC249S0005
FCI Locking cam	211 A247 001
Terminals: SICMA-3 1.5 terminal female, 0.34...0.75 mm ²	211 CC2S1160
Terminals: SICMA-3 1.5 terminal female, 1.00...2.00 mm ²	211 CC2S2160
Terminals: SICMA-3 2.8 terminal female, 0.35...0.75 mm ²	211 CC3S1160
Terminals: SICMA-3 2.8 terminal female, 1.00...2.50 mm ²	211 CC3S2160
Plug seals for unused contact chambers	210 A015019



For more information visit us
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This item is a standard product, please consider the relevant datasheet notes.
The user is responsible for the product's functionality in its purposed system environment.