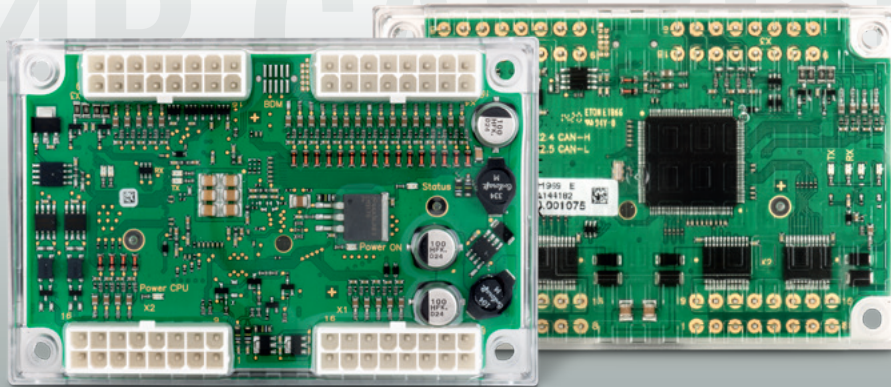


ICCS – Intelligent Control and Command Systems



64P CAN Controller

ICCS 64P CAN Controller – Use as standalone module or as an extension to existing CAN systems. Optimally suited for mounting on central electrical units and PCBs.

The 16 bit processor (HCS12XEQ) with an integrated co-processor has enough computing power to handle complex tasks. Binary switching information, analogue voltages, currents and signal frequencies can be detected and processed. The two integrated CAN highspeed interfaces allow the data exchange between two independent buses or enable gateway/filter functions.

Applications

- Monitoring of fuses and switching of relay
- Control unit for central electrical distribution
- Sensor to CAN bus
- CAN to CAN Gateway
- Input Output extension
- Graphically programmable control unit for mobile applications

Technical data

General information	
Housing	Transparent
Connector	4x Molex Mini Fit 16 Ways
Dimensions	76 x 116 x 15 mm
Weight	~155g
Operating temperature	-40°C to 85°C (no full load at 85°C)
Storage temperature	-40°C to 85°C
Ingress protection	IP 54
Operating voltage Vsupply	9 V to 30 V DC
Pre-fusing	10 A / block (HSD outputs)
Current consumption	70 mA
Processor type	Freescale HCS12XEQ
Clock frequency	100 MHz
Flash memory	384 kB
RAM	24 kB
EEPROM	1 kB available for graphical programming

CAN Bus

acc. ISO 11898-2	High speed
acc. CAN 2.0B	29 Bits extended address identifier
acc. CAN 2.0A	11 Bits address identifier
Baud rate	20 kBit/s to 1000 kBit/s (125 kBit/s default value)

Inputs/outputs overview

4	Analogue inputs	0-11.4 V DC / 0-23 mA
10	Analogue inputs	0-11.4 V DC
18	Digital inputs	Switch on/switch off level: see details
4	Digital inputs with IRQ	Switch on/switch off level: 2.9 V / 1.9 V DC
4	Digital inputs or digital outputs	Switch on/switch off level: see details High side outputs max 2 A
12	Digital outputs	High side outputs max 2 A

Inputs/outputs details

Analogue inputs	
Input voltage max	Vsupply
Measuring range	0-11.4 V DC / 0-23 mA
Resolution	12 Bits
Input resistance	22.6 kΩ
Pull-down resistance	Switchable 0.5/1 kΩ in 0-20 mA mode
Digital inputs	
Input voltage	0 V DC to Vsupply
Switch-on level	6 V (12 V version) 14 V (24 V)
Switch-off level	5 V (12 V version) 12 V (24 V)
Input resistance	7.88 kΩ
Digital outputs	
	High side
Load current	max 2 A Diagnostic current sense
IRQ inputs	
Input resistance	100 kΩ
Input frequency	5 kHz

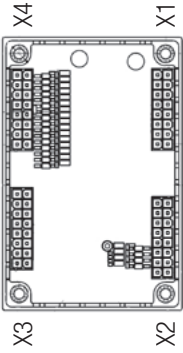
* Every analogue input is also usable as a digital input in the programming software

ICCS 64P CAN Controller

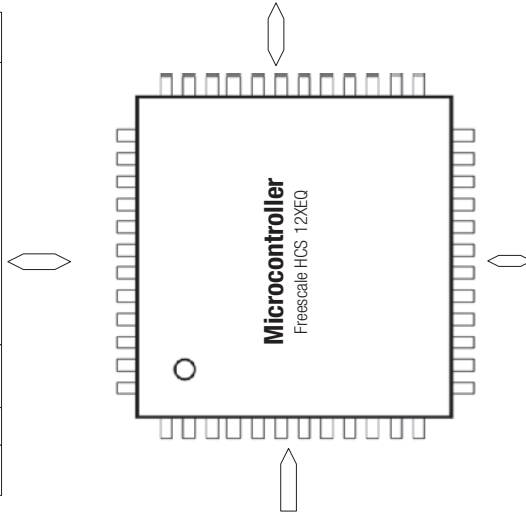


Hardware Map

Allocation of the connectors



-X2	8	B+1	Power Supply	For outputs 0 to 3	1x
-X2	1	B+2	Power Supply	For outputs 4 to 7	1x
-X1	8	B+3	Power Supply	For outputs 8 to 11	1x
-X1	1	B+4	Power Supply	For outputs 12 to 15	1x
-X1	2	GND	Ground		1x
-X3	2	GND	Ground		1x



-X1	7	ANA0	Analogue input 0-11.3 V DC, 12 Bits	10x
	6	ANA1		
	5	ANA2		
	4	ANA3		
	3	ANA4		
	13	ANA5		
-X3	5	ANA6	Analogue input 0-20 mA or 0-11.3 V DC, 12 Bits	4x
	12	ANA7		
	4	ANA8		
	11	ANA9		
	3	ANA_UL0		
-X4	10	ANA_UL1	Digital input Switch -on 6 V (12 V version) 14 V (24 V version) Switch -off 5 V (12 V version) 12 V (24 V version)	18x
	1	ANA_UL2		
	9	ANA_UL3		
	16	DIGIN_D10		
	8	DIGIN_D11		
	15	DIGIN_D12		
	7	DIGIN_D13		
	14	DIGIN_D14		
	6	DIGIN_D15		
	13	DIGIN_D16		
-X3	5	DIGIN_D17	Digital input with IRQ Switch -on 2.9 V Switch -off 1.9 V	4x
	12	DIGIN_D18		
	4	DIGIN_D19		
	11	DIGIN_D10		
	3	DIGIN_D11		
	10	DIGIN_D12		
	2	DIGIN_D13		
	9	DIGIN_D14		
-X2	1	DIGIN_D15	Digital input or Digital output Switch -on 6 V (12 V) 14 V (24 V) Switch -off 5 V (12 V) 12 V (24 V)	4x
	16	DIGIN_D18		
	15	DIGIN_D19		
	14	DIGIN_D20		
	13	DIGIN_D21		
	12	DIGIN_D18		
	11	DIGIN_D19		
-X1	16	DIGIN_D18	Digital output 2 A / output*	12x
	15	DIGIN_D19		
	14	DIGIN_D20		
	13	DIGIN_D21		
	12	DIGIN_D18		
	11	DIGIN_D19		
	10	DIGIN_D20		
	9	DIGIN_D21		
	16	DIGIN_D18		
	15	DIGIN_D19		
	14	DIGIN_D20		
	13	DIGIN_D21		
	12	DIGIN_D18		
	11	DIGIN_D19		
	10	DIGIN_D20		
9	DIGIN_D21			

FLASH	384 KB
RAM	24 KB
EEPROM	1 KB*

*EEPROM available for graphical programming

Pinout of the connectors



2x	Reference Voltage	5 V, max 200 mA	5V_out	2
	Reference Voltage	10 V*, max 150 mA	10V_out	3

*Only available when Vsupply is greater than 15 V

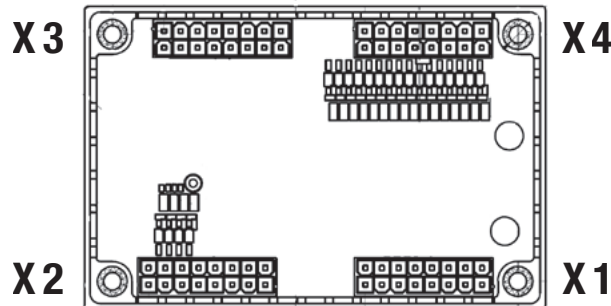
1x	CAN BUS 0	CAN_OH	4
		CAN_OL	5
		CAN_IH	6
1x	CAN BUS 1	CAN_IL	7

ICCS 64P CAN Controller

Pin assignment

X3 Connector		
Pin	Description	Function
1	Ana_UI_2	Analogue input 0-10 V or 0-20 mA
2	GND	Ground
3	Ana_UI_0	Analogue input 0-10 V or 0-20 mA
4	ANA8	Analogue input 0-10 V
5	ANA6	Analogue input 0-10 V
6	DIGIN_RPM_A0	Digital input with IRQ
7	DIGIN_RPM_A1	Digital input with IRQ
8	DIGIN_DI17	Digital input
9	Ana_UI_3	Analogue input 0-10 V or 0-20 mA
10	Ana_UI_1	Analogue input 0-10 V or 0-20 mA
11	ANA9	Analogue input 0-10 V
12	ANA7	Analogue input 0-10 V
13	ANA5	Analogue input 0-10 V
14	DIGIN_RPM_B0	Digital input with IRQ
15	DIGIN_RPM_B1	Digital input with IRQ
16	DIGIN_DI16	Digital input

X4 Connector		
Pin	Description	Function
1	DIGIN_DI15	Digital input
2	DIGIN_DI13	Digital input
3	DIGIN_DI11	Digital input
4	DIGIN_DI9	Digital input
5	DIGIN_DI7	Digital input
6	DIGIN_DI5	Digital input
7	DIGIN_DI3	Digital input
8	DIGIN_DI1	Digital input
9	DIGIN_DI14	Digital input
10	DIGIN_DI12	Digital input
11	DIGIN_DI10	Digital input
12	DIGIN_DI8	Digital input
13	DIGIN_DI6	Digital input
14	DIGIN_DI4	Digital input
15	DIGIN_DI2	Digital input
16	DIGIN_DI0	Digital input



X2 Connector		
Pin	Description	Function
1	B + 2	Power Supply for outputs 4-7
2	+5V Out	+5 V / 200 mA Voltage reference
3	+10V Out	+10 V* / 150 mA Voltage reference
4	CAN0-H	CAN Bus 0 High
5	CAN0-L	CAN Bus 0 Low
6	CAN1-H	CAN Bus 1 High
7	CAN1-L	CAN Bus 1 Low
8	B + 1	Power Supply for outputs 0-3
9	DIGOUT_HSD7	Digital output max 2 A
10	DIGOUT_HSD6	Digital output max 2 A
11	DIGOUT_HSD5	Digital output max 2 A
12	DIGOUT_HSD4	Digital output max 2 A
13	DIGIN_DI21	Digital input
	DIGOUT_HSD3	Digital output max 2 A
14	DIGIN_DI20	Digital input
	DIGOUT_HSD2	Digital output max 2 A
15	DIGIN_DI19	Digital input
	DIGOUT_HSD1	Digital output max 2 A
16	DIGIN_DI18	Digital input
	DIGOUT_HSD0	Digital output max 2 A

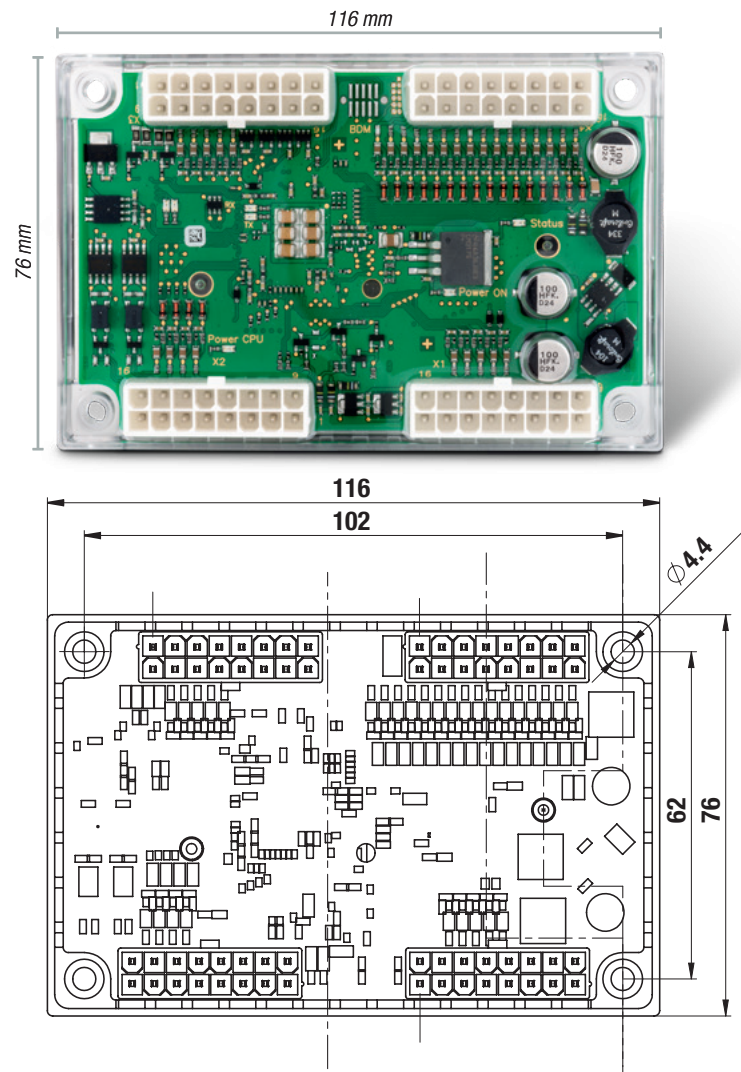
X1 Connector		
Pin	Description	Function
1	B + 4	Power Supply for outputs 12-15
2	GND	Ground
3	ANA4	Analogue input 0-10 V
4	ANA3	Analogue input 0-10 V
5	ANA2	Analogue input 0-10 V
6	ANA1	Analogue input 0-10 V
7	ANA0	Analogue input 0-10 V
8	B + 3	Power Supply for outputs 8-11
9	DIGOUT_HSD15	Digital output max 2 A
10	DIGOUT_HSD14	Digital output max 2 A
11	DIGOUT_HSD13	Digital output max 2 A
12	DIGOUT_HSD12	Digital output max 2 A
13	DIGOUT_HSD11	Digital output max 2 A
14	DIGOUT_HSD10	Digital output max 2 A
15	DIGOUT_HSD9	Digital output max 2 A
16	DIGOUT_HSD8	Digital output max 2 A

* The 10 V reference is only available when Vsupply is greater than 15 V.

ICCS 64P CAN Controller



Dimensions



Order information

Available references	Part number WE ICS
ICCS 64P XEQ CAN Controller (24 V version)	ICS-97194
ICCS 64P XEQ CAN Controller (12 V version)	ICS-97196

Mating connector	Part number WE eiSos
Housing: Female Dual Row Plug WR-MPC4, 16 Pins, Pitch 4.2 mm	649 016 113 322
Crimp contact: WR-MPC4, AWG 16	649 005 137 22
Crimp contact: WR-MPC4, AWG 24-18	649 006 137 22
Crimp contact: WR-MPC4, AWG 28-22	649 007 137 22

For 100 pieces packages, please add „DEC“ at the end of the reference.

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.

For more information visit us
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