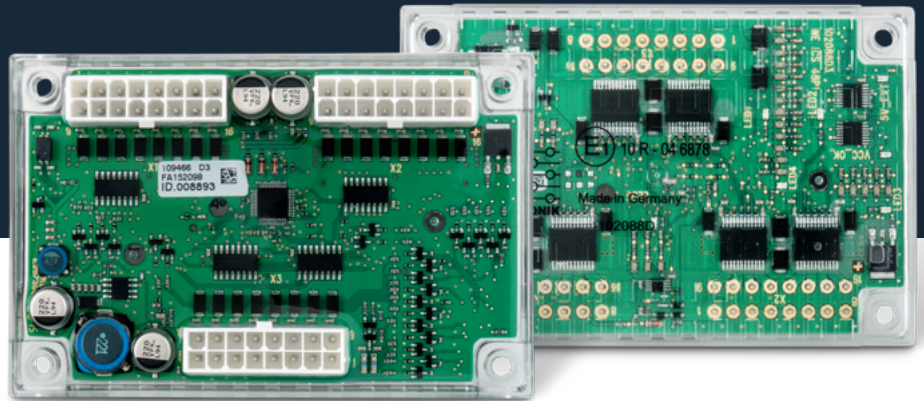


ICCS CAN INTERFACE 48P

Controllers



With up to 24 x 2 A outputs, the **ICCS CAN Interface 48P** covers a wide range of possibilities and is particularly suitable for applications in mobile machines and commercial vehicles. The high number of configurable inputs and outputs also makes it the perfect module for extending an existing CAN network. These graphically programmable controllers can be used as a stand-alone solution or for PCB mounting.

Applications

- Control unit for power distribution
- Monitoring of fuses and switching of relay
- Input and output extensions for CAN bus systems
- Connection of binary and analogue sensors via the CAN bus

Technical data

General information	
Housing	Transparent
Connector	3 x Molex Mini Fit 16 Ways
Dimensions	76 x 116 x 15 mm
Weight	~155 g
Operating temperature	-40 °C to 85 °C (no full load at 85 °C)
Storage temperature	-40 °C to 85 °C
Ingress protection	IP 54
EMC	E1
Operating voltage	9 to 30 V DC
Pre-fusing	10 A / Supply block
Current consumption	max 40 mA
Sleep mode consumption	500 µA
Processor type	Freescale HCS08
Clock frequency	40 MHz
Flash memory	60 kB (48P) / 128 kB (48P+)
RAM	4 kB (48P) / 8 kB (48P+)
EEPROM	1 kB available for graphical programming

CAN Bus	
acc. ISO 11898-5	High speed wake on CAN
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 1000 kBit/s (250 kBit/s default value)

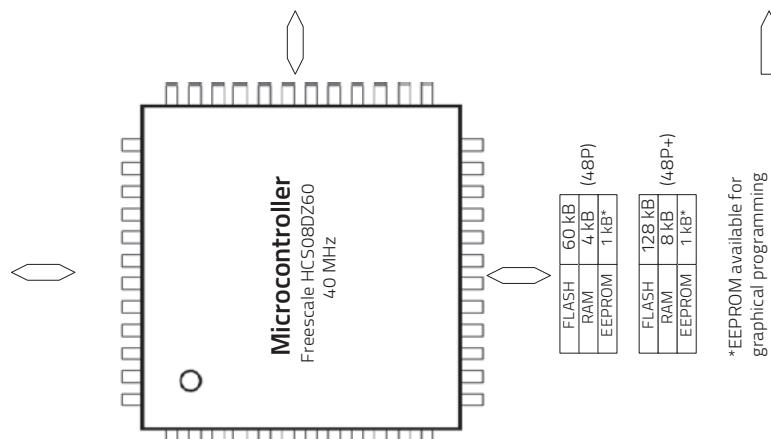
Inputs / outputs overview		
10	Analogue inputs	8 x 0–11.034 V DC 12 bits 2 x 0–11.034 V DC 12 bits / 0–20 mA
3	Digital inputs	Switch-on / switch-off level: 7 V / 4 V DC
1	Digital input	KL15 wake-up input
6	Digital outputs	High side outputs max 2 A
4	PWM outputs	High side outputs max 1 A / 1 kHz
14	Analogue inputs or digital outputs	0–11.034 V DC 12 Bit High side outputs max 2 A

Inputs / outputs details	
Analogue inputs	
Input voltage max	Vsupply
Measuring range	0–11.034 V DC
Resolution	12 bits
Input resistance	220.68 kΩ
Refresh rate	max 120 ms (with cycle time 10 ms)
Digital inputs	
Input voltage	0 V DC to Vsupply
Switch-on level	7 V DC
Switch-off level	4 V DC
Input resistance	22.68 kΩ
Digital outputs	
High side	
Load current	max 2 A diagnostic current sense
PWM outputs	
PWM frequency	max 1 kHz
Duty cycle	0 to 100 %
Resolution	0.1 %
Load current	max 1 A

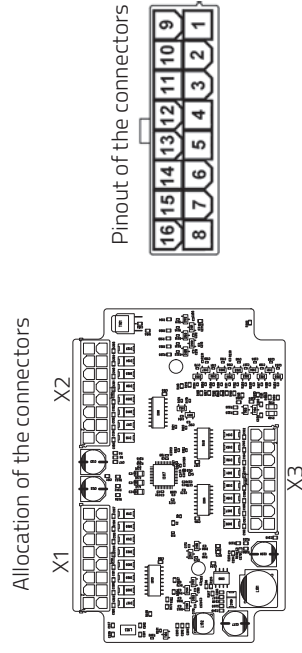
Hardware map

6x	Digital output max 2 A / output	DOM_OUT_01 12 DOM_OUT_02 11 DOM_OUT_03 10 DOM_OUT_04 9 DOM_OUT_09 16 DOM_OUT_10 15
4x	PWM output or digital output max 2 A / output 1 A max 1 kHz max	PWM_OUT_05 16 PWM_OUT_06 15 PWM_OUT_07 14 PWM_OUT_08 13
		AI_OUT_11 14 DOM_OUT_11 14 AI_OUT_12 13 DOM_OUT_12 13 AI_OUT_13 12 DOM_OUT_13 12 AI_OUT_14 11 DOM_OUT_14 11 AI_OUT_15 10 DOM_OUT_15 10 AI_OUT_16 9 DOM_OUT_16 9
14x	Analogue input or digital output 0-11,034 V DC, 12 Bits max 2 A / output	AI_OUT_17 16 DOM_OUT_17 16 AI_OUT_18 15 DOM_OUT_18 15 AI_OUT_19 14 DOM_OUT_19 14 AI_OUT_20 13 DOM_OUT_20 13 AI_OUT_21 12 DOM_OUT_21 12 AI_OUT_22 11 DOM_OUT_22 11 AI_OUT_23 10 DOM_OUT_23 10 AI_OUT_24 9 DOM_OUT_24 9
1x	Reference voltage 5 V, max 500 mA	VDD5V 7
1x	CAN BUS wake on CAN	CAN_H 3 CAN_L 2

-X1	1	KL_30_1	Power supply HSD outputs	6x
-X1	8	KL_30_2		
-X2	1	KL_30_3		
-X2	8	KL_30_4		
-X3	1	KL_30_5		
-X3	8	KL_30_6		
-X2	7	AGND	Ground	1x



-X2	2	AI_ANA_01	Analogue input 0-11,034 V DC, 12 Bits	10x
	3	AI_ANA_02		
	4	AI_ANA_03		
	5	AI_ANA_04		
	6	AI_ANA_05		
	2	AI_ANA_06		
-X3	3	AI_ANA_07	0-20 mA or 0-11,034 V DC, 12 Bits	3x
	4	AI_ANA_10		
	6	AI_ANA_08		
-X1	4	DI_01	Digital input Switch-on 7 V Switch-off 4 V	3x
	5	DI_02		
	6	DI_03		
-X1	7	DI_KL15	Digital input Activation Pin	1x



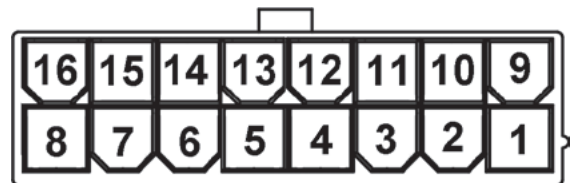
Pin assignment

X1 Connector		
Pin	Description	Function
1	KL30_1	Power supply HSD outputs 13–16
2	CAN L	CAN Bus Low
3	CAN H	CAN Bus High
4	DI_01	Digital input
5	DI_02	Digital input
6	DI_03	Digital input
7	DI_KL15	Activation pin
8	KL30_2	Power supply HSD outputs 5–8
9	AI_OUT_16	Analogue input 0–10 V DC
	DOM_OUT_16	Digital output
10	AI_OUT_15	Analogue input 0–10 V DC
	DOM_OUT_15	Digital output
11	AI_OUT_14	Analogue input 0–10 V DC
	DOM_OUT_14	Digital output
12	AI_OUT_13	Analogue input 0–10 V DC
	DOM_OUT_13	Digital output
13	PWM_OUT_08	PWM output
14	PWM_OUT_07	PWM output
15	PWM_OUT_06	PWM output
16	PWM_OUT_05	PWM output

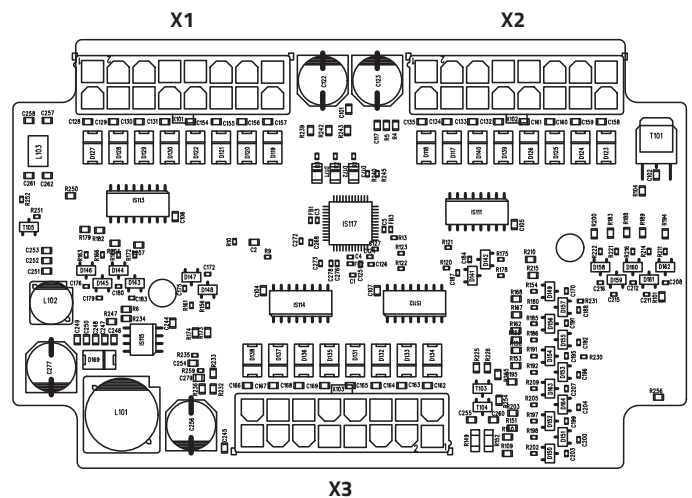
X3 Connector		
Pin	Description	Function
1	KL30_5	Power supply HSD outputs 21–24
2	AI_ANA_06	Analogue input 0–10 V DC
3	AI_ANA_07	Analogue input 0–10 V DC
4	AI_ANA_08	Analogue input 0–10 V DC
5	AI_ANA_09	Analogue input 0–10 V DC
6	AI_ANA_10	Analogue input 0–10 V DC
7	VDD5V	5 V Ref. max 500 mA
8	KL30_6	Power supply HSD outputs 17–20
9	AI_OUT_24	Analogue input 0–10 V DC
	DOM_OUT_24	Digital output
10	AI_OUT_23	Analogue input 0–10 V DC
	DOM_OUT_23	Digital output
11	AI_OUT_22	Analogue input 0–10 V DC
	DOM_OUT_22	Digital output
12	AI_OUT_21	Analogue input 0–10 V DC
	DOM_OUT_21	Digital output
13	AI_OUT_20	Analogue input 0–10 V DC
	DOM_OUT_20	Digital output
14	AI_OUT_19	Analogue input 0–10 V DC
	DOM_OUT_19	Digital output
15	AI_OUT_18	Analogue input 0–10 V DC
	DOM_OUT_18	Digital output
16	AI_OUT_17	Analogue input 0–10 V DC
	DOM_OUT_17	Digital output

X2 Connector		
Pin	Description	Function
1	KL30_3	Power supply HSD outputs 1–4
2	AI_ANA_01	Analogue input 0–10 V DC
3	AI_ANA_02	Analogue input 0–10 V DC
4	AI_ANA_03	Analogue input 0–10 V DC
5	AI_ANA_04	Analogue input 0–10 V DC
6	AI_ANA_05	Analogue input 0–10 V DC
7	AGND	Ground
8	KL30_4	Power supply HSD outputs 9–12
9	DOM_OUT_04	Digital output
10	DOM_OUT_03	Digital output
11	DOM_OUT_02	Digital output
12	DOM_OUT_01	Digital output
13	DOM_OUT_12	Digital output
	AI_OUT_12	Analogue input 0–10 V DC
14	DOM_OUT_11	Digital output
	AI_OUT_11	Analogue input 0–10 V DC
15	DOM_OUT_10	Digital output
16	DOM_OUT_09	Digital output

Pinout of the connectors



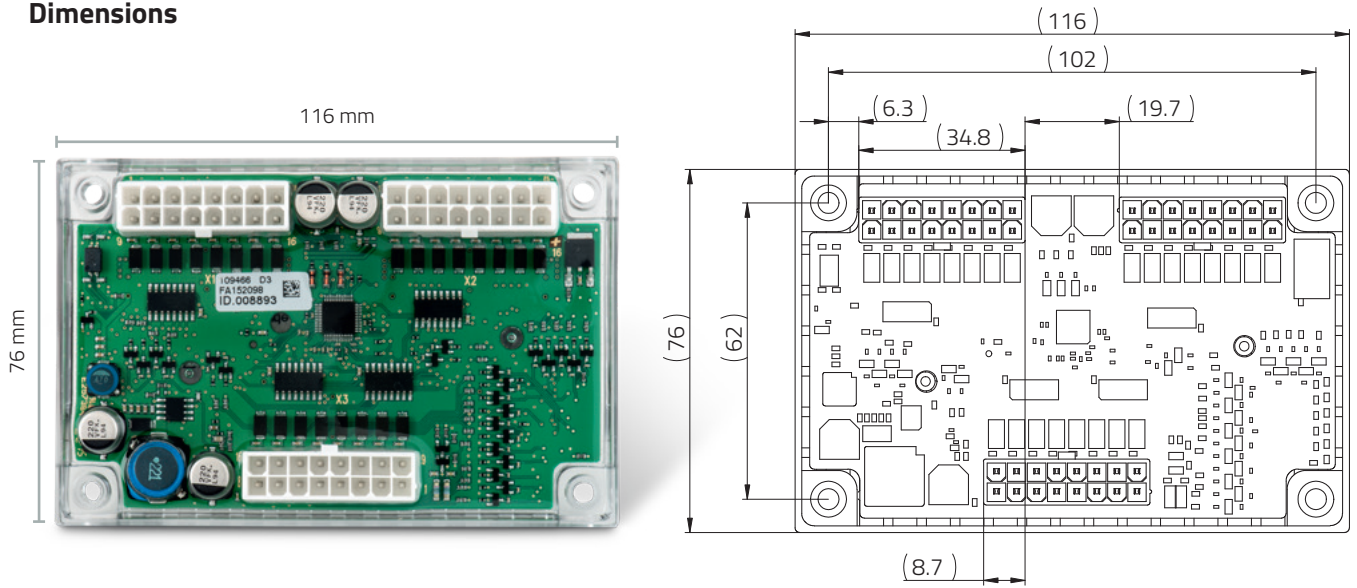
Allocation of the connectors



ICCS CAN INTERFACE 48P

Controllers

Dimensions



Order information

Available References	Part number WE ICS
ICCS CAN Interface 48P (unprogrammed) With software bootloader	ICS-100596
ICCS CAN Interface 48P+ (unprogrammed) With software bootloader	ICS-102013

Mating connector	Part number WE eiSos
Housing: 16 pin mini fit housing	649 016 113 322
Crimp contact: AWG 16 (1.31 mm ²)	649 005 137 22
Crimp contact: AWG 24-18 (0.2 to 0.82 mm ²)	649 006 137 22
Crimp contact: AWG 28-22 (0.08 to 0.33 mm ²)	649 007 137 22

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

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