E-T-A SCS20 Smart Control Systems

Description

The SCS (Smart Control Systems) product group holds intelligent systems, power distribution and components with communication capabilities. These smart devices can flexibly be integrated into existing structures. The additional communication capabilities provide more flexibility and reliability.

The SCS20 is one of the smallest components of the SCS product group. This CAN mini control unit for universal use in a module enclosure can easily be included in existing systems via a customer-specific software.

The SCS20 offers six IO ports which can be used as inputs or outputs and two additional low-power outputs. There are two H-bridge outputs which can control motors with up to 10 A each. Alternatively, 4 separate loads can be operated with max. 10 A each.

A further interface is provided for the CAN communication. This interface uses the CAN 2.0B standard by default. CAN low speed or RS232 are optionally available.

This data sheet concentrates on the description of the hardware. Software and specification requirements are set up in direct co-operation with our customers. Alternatively, we will shortly be able to offer a programming option for these mini control units by an intuitive, graphical design environment.

Applications

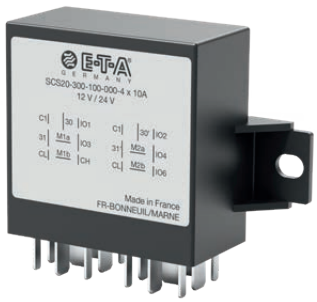
The SCS20 is suitable for both DC 12 V and DC 24 V applications.

Scope of applications:
- Trucks
- Special vehicles
- Buses
- Construction machinery and emergency cars
- Agricultural vehicles and forestry equipment

Typical applications:
- Optional extension of an existing CAN system to ISO 11898, SAE J1939 is possible.
- Addition of sensor or other options which can be interrogated and/or controlled via the central control unit.
- Control of two motors with up to 10 A via two H-bridge outputs. Both motor bridges provide overload detection. Alternatively, 4 loads can be operated with max. 10 A each.
- Internal measurement of temperature and voltage. These bits of information can then be accounted for in the software.

Benefits

- Due to the customer-specific software, the SCS20 offers quick and reliable resolution of many problems that can occur during design, retrofit or adjustment of vehicles.
- Existing CAN systems can easily be enhanced by any type of sensors and equipment options that are interrogated or controlled via the centralised control unit.
- 12 interfaces and additional CAN communication make this control unit an ideal solution to allow a great number of vehicle options.



SCS20

Technical data (25 °C) SCS20-300-100-000- 2x2 A

Voltage ratings		12 V / 24 V		
Operating voltage		9 V ... 32 V		
Power consumption		< 300 mA		
Closed current		< 1 mA		
Mass		>90 g		
Inputs/outputs				
Description	open collector	Input voltage range	I/O or only input	Features
IO1 PIN4	yes (70 mA)	0 V ... 30 V	I/O	analog/digital
IO2 PIN1	yes (70 mA)	0 V ... 30 V	I/O	analog/digital
IO3 PIN15	yes (70 mA)	0 V ... 30 V	I/O	analog/digital/ receiver RX
IO4 PIN13	yes (70 mA)	0 V ... 30 V	I/O	analog/digital
IO5 PIN6	yes (70 mA)	0 V ... 30 V	I/O	analog/digital
IO6 PIN3	yes (70 mA)	0 V ... 30 V	I/O	analog/digital/ transmitter TX
Outputs				
I7 PIN7	no	0 V ... 30 V	input	
I8 PIN10	no	0 V ... 30 V	input	
Outputs – H-bridge				
M1a PIN11 M1b PIN17	10 A H-bridge combined	10 A individually 10 A individually	The motor bridges can be used individually as high or low side switch.	
M2a PIN8 M2b PIN14	10 A H-bridge combined	10 A individually 10 A individually		
Power supply				
30 PIN2 30‘ PIN5	9 V ... 32 V	Separate power supply for power and logic Thus a reference voltage can be tapped for exact analog measurement.		
31 PIN9 31‘PIN12	mass			

5

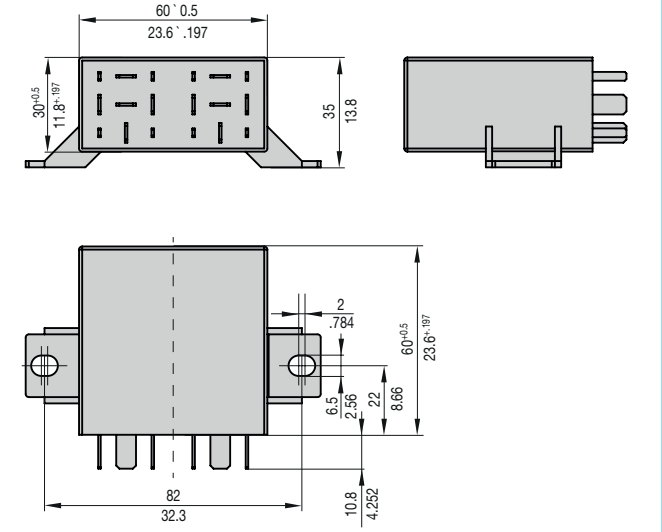
Technical data (25 °C) SCS20-300-100-000-4x10 A

High speed CAN interface (low speed or RS232 optional)	
CH PIN17	CAN high
CL PIN18	CAN low
Internal functions	- internal temperature measurement - internal potentiometer(optional) - internal voltage measurement - overload detection bridge 1 & 2
Max. output current at 12 V	2 x 20 A
Max. output power	2 x 480 W
Operating temperature	-40° C … +85° C
Materials	
Blade terminals	DIN 46244 – A6.3 x 0.8 DIN 46244 – A2.8x0.8 CuZn 37 F37
Housing material	PA6GF

Qualifications

Degree of protection	IP52
Noise immunity	95/54 EG & DIN 40839
E1 number	upon request

Dimensions



Ordering information

Type no.

SCS20 Smart Control Systems

Operating voltage

3 12 V / 24 V

Low Power I/Os

0 6 I/Os

HSD outputs

0 2 x H-bridges 10 A or 4 x 10 A HSD

Standard

100-000 CAN 2.0 B

Custom designed versions

049 project index number according to region (international area code), e.g.
Germany +49 = **049**
France +33 = **033**
Portugal +351 = **351**
USA +1 = **001**

Project number part 2

001 serial number

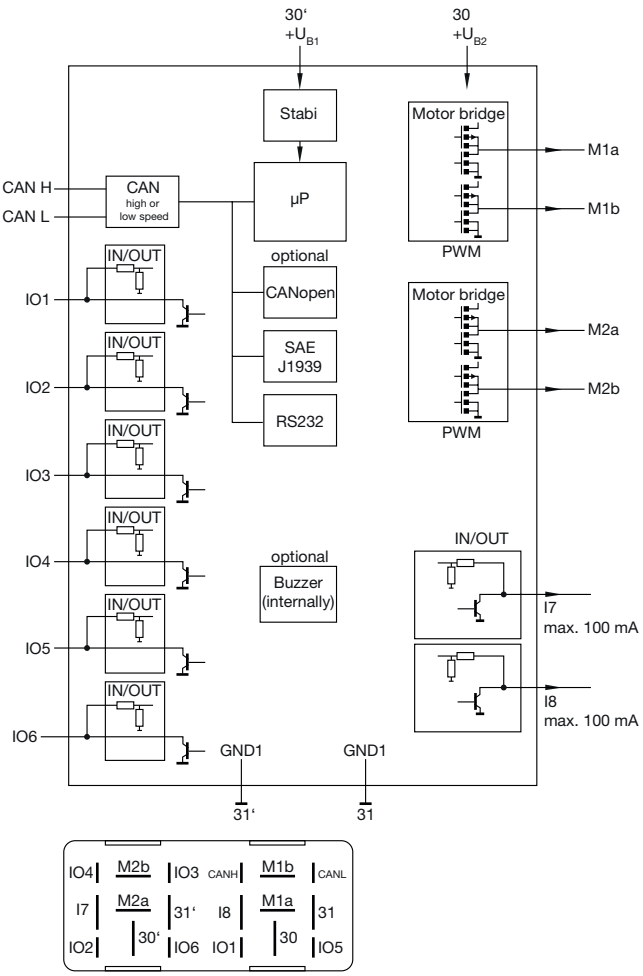
Main outputs - current rating

4 x 10 A

Ordering examples

SCS20 - 3 0 0-100 - 000 - 4 x 10 A only hardware
SCS20 - 3 0 0-049 - 001 - 4 x 10 A for customised software

Schematic diagram / pin assignment



31, 30, M1a, M1b, I7, 31‘, 30‘, M2a, M2b, I8 : 6.3 x 0.8 mm
IO3, IO1, IO4, IO2, CL, CH, IO5, IO6: 2.8 x 0.6 mm