

Description

E-T-A's SCS (Smart Control Systems) product group includes smart systems, power distribution modules and components with the capability to communicate. These smart devices can be flexibly integrated into existing systems. The capability to communicate provides more flexibility and safety.

The SCS20 is one of the smallest devices of this product family. This CAN mini control unit in a module enclosure is universally usable and can be easily integrated into existing systems via a customer-specific software.

The SCS20 mini control unit has eight IO ports that can be used as inputs or outputs. Two H-jumpers can control one motor each. Alternatively, 4 individual loads can be operated.

An additional interface is intended for CAN communication. This interface uses the CAN 2.0 standard.

This data sheet mainly describes the hardware. The software and the requirements are specified in direct cooperation with our customers. Upon request, we can also support you with programming the devices via a software with an intuitive graphic user interface.

Applications

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

Typical applications:

- Trucks
- Specialty vehicles
- Buses
- Construction machinery and emergency cars
- Agricultural vehicles and forestry equipment

Typical applications:

- Extension option of an existing CAN system.
- Integration of sensors or equipment options, which can be queried or controlled by the central control system
- Two motors can be controlled via two H-jumpers. Both motor jumpers provide an overload detection. Alternatively, 4 loads can be operated.
- Internal temperature and voltage measurement
These information can be integrated into the software.

Benefits

- Thanks to the customer-specific software, the SCS20 provides fast and reliable workarounds for many problems that can occur during the vehicle's development, reconstruction or customisation.
- Existing CAN systems can be easily extended with sensors or equipment options, which can be queried or controlled by the central control system.
- Thanks to its 12 interfaces and the additional CAN communication this product is the perfect solution to enable many vehicle options.



SCS20

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

| | |
|-----------------------|-------------------|
| Rated voltage | 12 V / 24 V |
| Operating voltage | 9 V... 30 V |
| Current consumption | <300 mA |
| Input voltage range | 0 V... 30 V |
| Operating temperature | -40 °C ... -85 °C |
| Mass | 100 g |

| Inputs / Outputs | | | |
|------------------|---------------------|-------------------|---|
| De-scription | Input voltage range | I/O or input only | Features |
| IO1 | max. 32 V | I/O | Input • analogue 12 bit resolution |
| | max. 60 mA | | Output • digital • high side output |
| IO2 | max. 32 V | I/O | Input • analogue 12 bit resolution |
| | max. 60 mA | | Output • digital • high side output |
| IO3 | max. 32 V | I/O | Input • analogue 12 bit resolution |
| | max. 60 mA | | Output • digital • high side output |
| IO4 | max. 32 V | I/O | Input • analogue 12 bit resolution |
| | max. 60 mA | | Output • digital • high side output |
| IO5 | max. 32 V | I/O | Input • analogue 12 bit resolution |
| | max. 60 mA | | Output • digital • high side output |

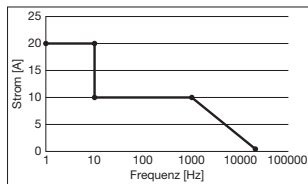
Technical data (25 °C) SCS20-300-100-000-4x10 A

| | | | |
|-----|------------|-----|--------|
| IO6 | max. 32 V | I/O | Input |
| | max. 60 mA | | Output |
| IO7 | max. 32 V | I/O | Input |
| | max. 60 mA | | Output |
| IO8 | max. 32 V | I/O | Input |
| | max. 60 mA | | Output |

Outputs – H-jumpers

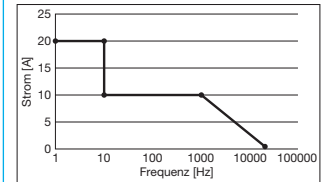
– 20 A (4x) per output, but 40 A in total!

| | | | | |
|-----|------|---------------------|---|---|
| M1a | 20 A | 20 A in combination | O | Standard output (Each with its own load at M1a and/or M1b) |
| | | | | <ul style="list-style-type: none"> • digital • PWM capable - max. 10 A - 20 kHz |
| M1b | 20 A | | | H-jumpers - mode (Same load at M1a and M1b) |
| | | | | <ul style="list-style-type: none"> • digital • PWM capable - max. 10 A - 20 kHz • Open load detection |
| | | | | General <ul style="list-style-type: none"> • Current measurement per motor jumper • Overcurrent detection • Short circuit detection - At 50 A - Reset after 10 sec. |



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

| | | | | |
|-----|------|---------------------|---|---|
| M2a | 20 A | 20 A in combination | O | Standard output (Each with its own load at M2a and/or M2b) |
| | | | | <ul style="list-style-type: none"> • digital • PWM capable - max. 10 A - 20 kHz |
| M2b | 20 A | | | H-jumpers - mode (Same load at M2a and M2b) |
| | | | | <ul style="list-style-type: none"> • digital • PWM capable - max. 10 A - 20 kHz • Open load detection |
| | | | | General <ul style="list-style-type: none"> • Current measurement per motor jumper • Overcurrent detection • Short circuit detection - At 50 A - Reset after 10 sec. |



Power supply

| | | |
|-----|-------------|--|
| 30 | 9 V... 30 V | Separate voltage supply for power and logic. For accurate analogue measurement a reference voltage can be derived. |
| 30' | | |
| 31 | Mass | |
| 31' | | |

High-Speed CAN interface

| | | |
|-----------------------|-------------------|---------|
| CH | CAN High | CAN 2.0 |
| CL | CAN Low | |
| Operating temperature | -40 °C ... -85 °C | |
| Mass | 100 g | |

Materials

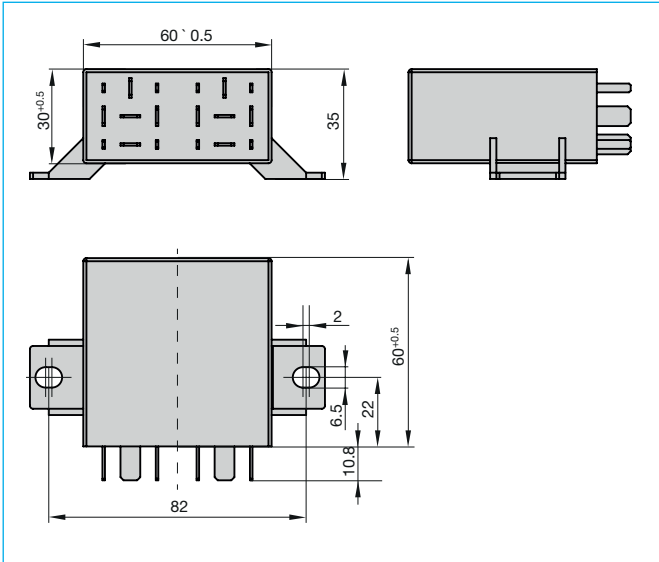
| | |
|------------------|---|
| Blade terminals | DIN 46244 – A6.3 x 0.8 DIN 46244 – A2.8 x 0.8 CuZn 37 F37 |
| Housing material | PA6GF |

5

Qualifications

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

Dimensions

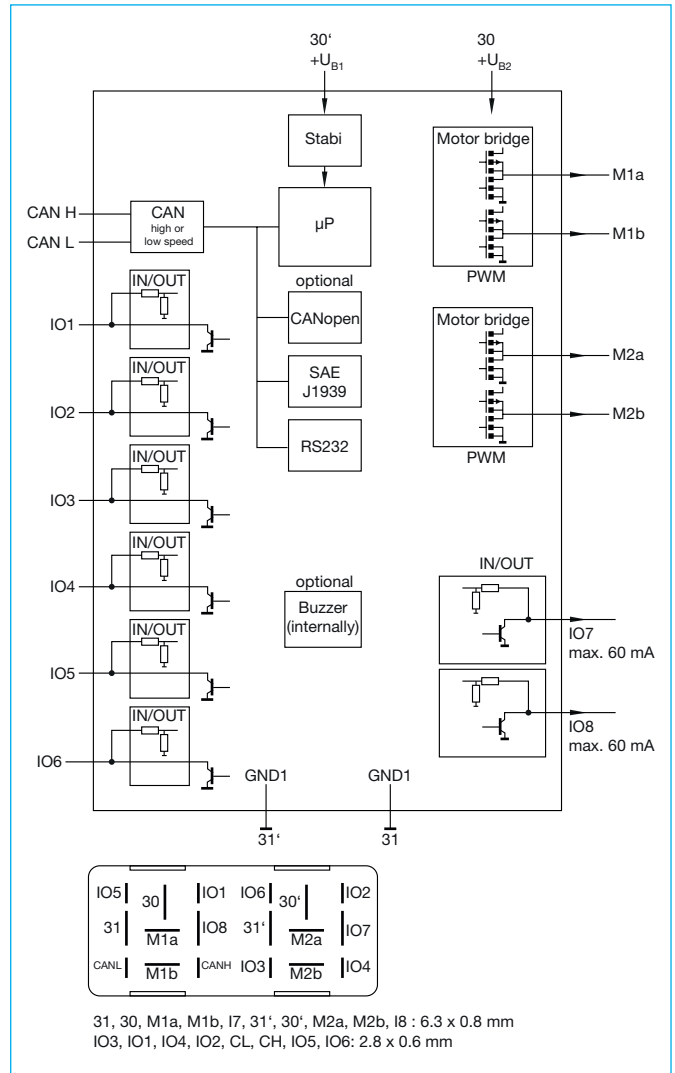


Ordering number code

| | | |
|--------------------------------|----------|--|
| 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 motor jumpers 10 A or 4 x 10 A HSD |
| Standard | 100-000 | CAN 2.0 |
| Custom designed versions | 049 | Project index number depending on the region (according to the country 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 ratings | 4 x 10 A | |

Ordering examples:
 SCS20 - 3 0 0-100 - 000 - 4 x 10 A Hardware only
 SCS20 - 3 0 0-049 - 001 - 4 x 10 A For customer-specific software

Schematic diagram / Pin assignment



All information and data given on our products are accurate and reliable to the best of our knowledge, but E-T-A does not accept any responsibility for the use in applications which are not in accordance with the present specification. E-T-A reserves the right to change specifications at any time in the interest of technical improvement. Dimensions are subject to change without notice. Please enquire for the latest dimensional drawing with tolerances if required. All dimensions, data, pictures and descriptions are for information only and are not binding. Amendments, errors and omissions excepted. Ordering codes of the products may differ from their marking.