

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 easily integrated into existing systems. The capability to communicate provides more flexibility and safety.

This CAN mini control unit in a module enclosure is universally usable and can be flexibly integrated into existing systems via customer-specific software.

The SCS30 mini control unit has six IO ports which can be used as inputs or outputs, two additional low power outputs and four high power outputs with up to 1 A each and four further power outputs which can permanently provide 2 A. These four channels can be operated as two motor jumpers.

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 SCS30 is suitable for 12 V and 24 V applications. This must not be specified separately upon ordering.

Typical applications:

- Trucks
- Specialty vehicles
- Buses
- Construction machinery and agricultural vehicles

Typical applications:

- Extension option of an existing CAN system; The SCS30 is J1939 compatible and perfectly suitable for flexible vehicle option integration.
- 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-jumper outputs. Both motor jumpers provide an overload detection. Alternatively, 4 individual 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 SCS30 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 many interfaces and the additional CAN communication this product is the perfect solution to enable many vehicle options.



SCS30

Technical data (25 °C) SCS30-300-100-000-4x2A

Rated voltage	12 V / 24 V
Operating voltage	9 V... 30 V
Current consumption	< 300 mA operating condition / Idle condition < 1 mA (self-holding)
Input voltage range	0 V... 30 V
Operating temperature	-40 °C ... -85 °C
Mass	90 g

Inputs / Outputs

De-scription	Input voltage range	I/O or input only	Features
IO1 PIN 4	max. 32V	I/O	Input • analogue 12 bit resolution • Pull-Up programmable
	max. 60 mA		Output • digital • High Side / Low Side programmable • Short circuit detection (output disconnection, module restart required)
IO2 PIN 5	max. 32V	I/O	Input • analogue 12 bit resolution • Pull-Up programmable
	max. 60 mA		Output • digital • High Side / Low Side programmable • Short circuit detection (output disconnection, module restart required)
IO3 PIN 2	max. 32V	I/O	Input • analogue 12 bit resolution • Pull-Up programmable
	max. 60 mA		Output • digital • High Side / Low Side programmable • Short circuit detection (output disconnection, module restart required)

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IO4 PIN 3	max. 32 V	I/O	Input
	max. 60 mA		Output
IO5 PIN 10	max. 32 V	I/O	Input
	max. 60 mA		Output
IO6 PIN 6	max. 32 V	I/O	Input
	max. 60 mA		Output
I7 PIN 7	max. 32 V	I	Input
I8 PIN 1	max. 10 V	I	Wake-up / Self-holding
			Input
I9 PIN 8	max. 32 V	I	Input

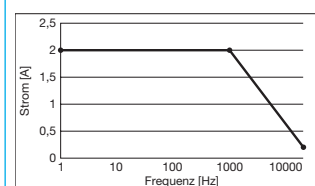
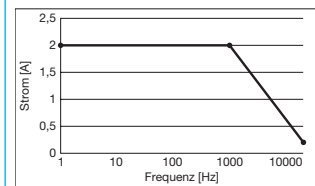
Outputs

H1 PIN 13	max. 2 A	O	• digital • high side output
H2 PIN 14	max. 2 A	O	• digital • high side output
H3 PIN 15	max. 2 A	O	• digital • high side output
H4 PIN 16	max. 2 A	O	• digital • high side output

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Outputs – H-jumper

M1a PIN 19	2 A	2 A in combination	O	<p>General</p> <ul style="list-style-type: none"> • digital • PWM-capable • Current measurement per output • Overcurrent detection • Short circuit detection <ul style="list-style-type: none"> - At 3.3 A - Reset after 5 sec. <p>Standard output (Each with its own load at M1a and/or M1b)</p> <p>H-jumpers - mode (Same load at M1a and M1b)</p> <ul style="list-style-type: none"> • Open load detection <p>PWM Mode</p> <ul style="list-style-type: none"> • Frequency characteristic for PWM operation <ul style="list-style-type: none"> - up to 1 kHz: 2 A - 20 kHz: 0.2 A - 1 kHz - 20 kHz linear function
M1b PIN 18	2 A			
M2a PIN 22	2 A	2 A in combination	O	<p>General</p> <ul style="list-style-type: none"> • digital • PWM-capable • Current measurement per output • Overcurrent detection • Short circuit detection <ul style="list-style-type: none"> - At 3.3 A - Reset after 5 sec. <p>Standard output (Each with its own load at M1a and/or M1b)</p> <p>H-jumpers - mode (Same load at M1a and M1b)</p> <ul style="list-style-type: none"> • Open load detection <p>PWM Mode</p> <ul style="list-style-type: none"> • Frequency characteristic for PWM operation <ul style="list-style-type: none"> - up to 1 kHz: 2 A - 20 kHz: 0.2 A - 1 kHz - 20 kHz linear function
M2b PIN 23	2 A			



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Power supply

PUBat1 PIN 24	9 V ... 30 V	Separate voltage supply for power and logic via GND (mass). For accurate analogue measurement a reference voltage can be derived.
PUBat2 PIN 17		
PGND PIN 20	mass	
PGND PIN 21		
LGND PIN 9		

High-Speed CAN interface

CH PIN 11	CAN High	CAN 2.0
CL PIN 12	CAN Low	

Materials

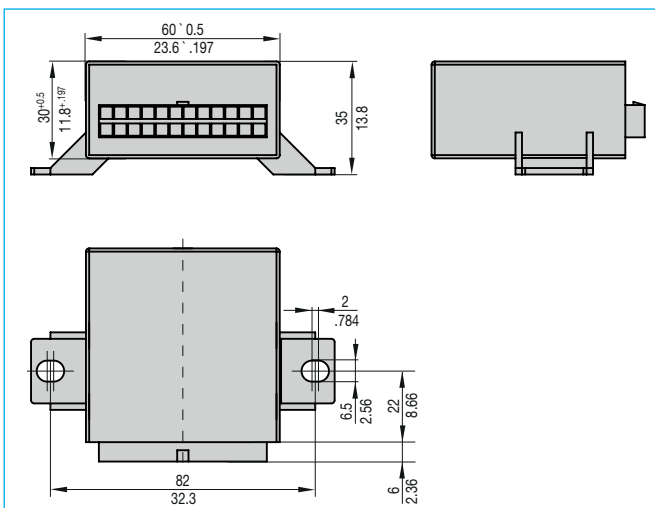
Blade terminals	Molex MiniFit Series PCB plug-in connector Male
Housing material	PA6GF

Qualifications

SCS30-300-100-000-4x 2A

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

Dimensions



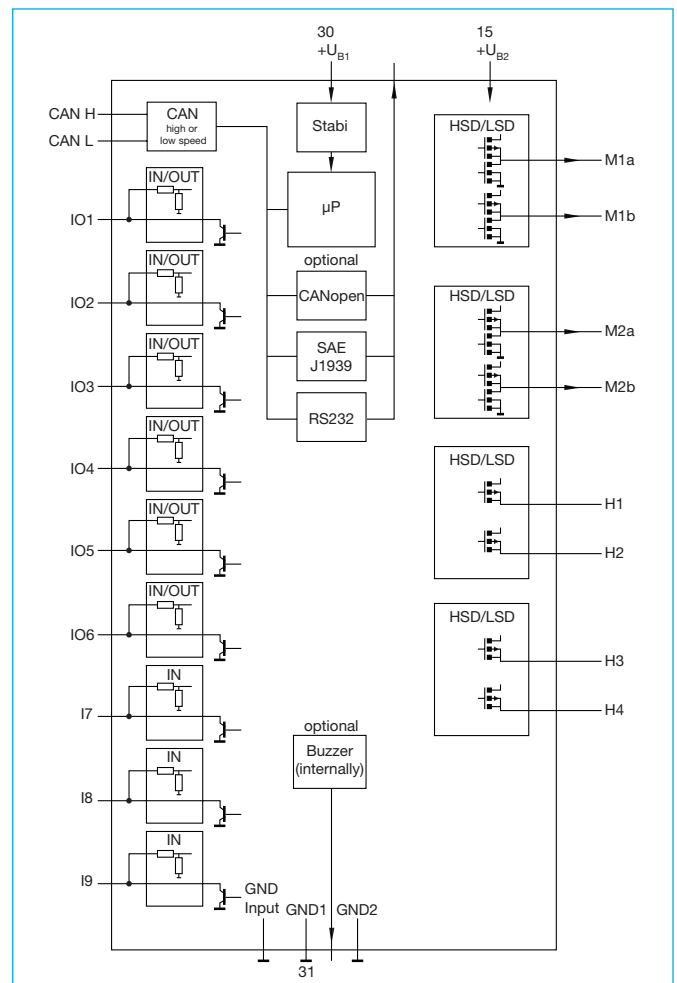
Ordering number code

Type No.	SCS30 Smart Control Systems
Operating voltage	3 12 V / 24 V
Low Power I/Os	0 6 I/Os 2 I
HSD outputs	0 4 x 1 A; 4 x 2 A
Standard	100-000 standard 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 2 A

Ordering examples:

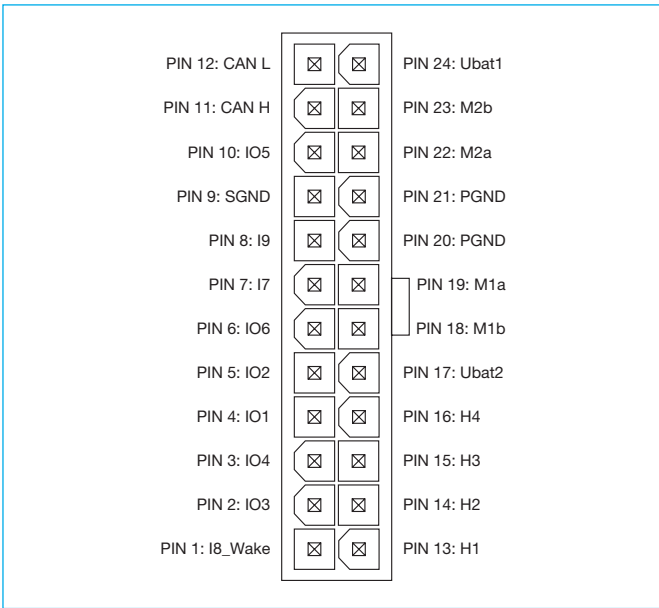
SCS30 - 3 0 0 - 100 - 000 - 4 x 2 A Hardware only
 SCS30 - 3 0 0 - 049 - 001 - 4 x 2 A For customer-specific software

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.

Schematic diagram / Pin assignment



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