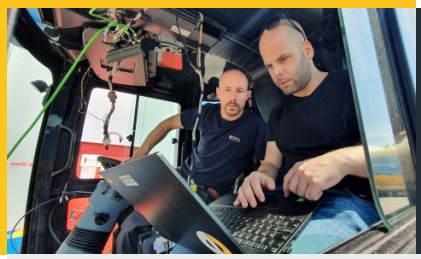


SIU - Safe Interlock Unit

The SIU is a state-of-the-art standalone interlock generator and measurement device, used to ensure protection against electrical shock in electric vehicles and machines. The Interlock Status is communicated on CAN and redundantly as digital output. The unit is available in an IP6K9K enclosure or as PCB to be integrated into a High Voltage Battery (HVB, RESS) or a Power Distribution Unit (PDU).

Description

The high voltage interlock is an important safety feature in EVs that makes sure, that the high voltage system is only activated when it is safe to do so.
By preventing hazardous situations from occurring, the high voltage interlock protects both the occupants of the vehicle and anyone else who may come into contact with it.

Features

Norms and Regulations

- AECQ-100 automotive compliant
- ISO 6469-3:2018 compliant
- ASIL Ready, ISO 26262 on request
- ISO 20653 IP6K9K (with enclosure)
- ECE R10 compliant on request

Technical Specification

- From 1 up to 3 independent Interlock Circuits
- Redundant measurement
- Wide coverage of interlock loop fault diagnosis: Short to GND, short to battery, open loop, IL resistance
- Current driven interlock PWM
- Adjustable duty cycle & frequency
- Limited short circuit current, sink & drain
- Wide range supply (8-32V)
- Wakeup-Time <100ms
- Secured CAN2.0B interface, 500 kBaud
- Configurable auxiliary outputs*

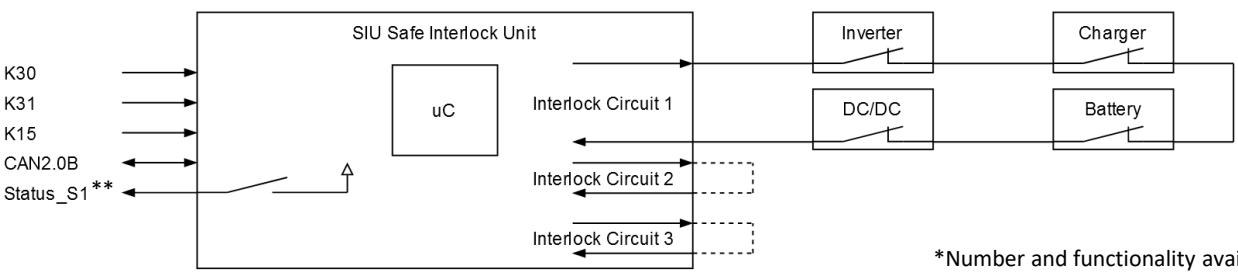
Order Information

SIU-ET-A01

	Qualification and revision information
T	CAN termination 120 Ohm
O	No internal CAN termination
E	Enclosure IP6K9K
B	Barebone PCB
SIU	Device name (Safe Interlock Unit)

Connector (not included)

1x	Connector	Deutsch DTM06-12SA
12x	Contact	Deutsch 1062-20-0122
1x	CPA	Deutsch WM-12S
12x	Sealing Plug	Deutsch 0413-204-2005
1x	Boot	Deutsch DTM12S-BT

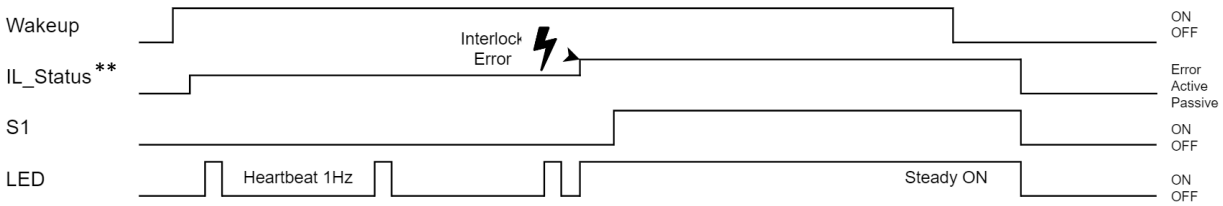


*Number and functionality available depends on hardware configuration

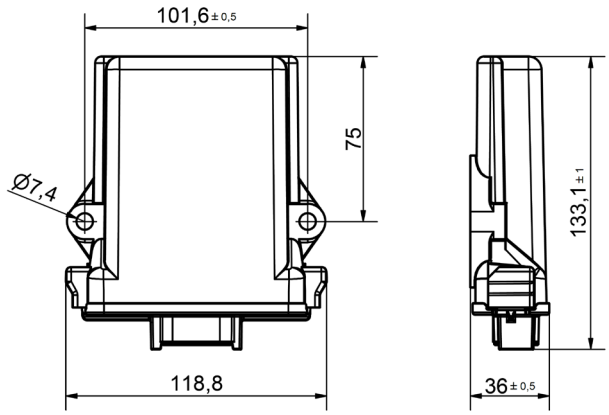
Pinning LV Connector X1

Pin	Name	Description
1	Ground (K31)	Supply GND
2	Supply (K30)	Supply, 8-32V, always on
3	Wakeup (K15)	Wake up, 8-32V
4	IL Out	Interlock Output
5	IL_Fb	Interlock Feedback
6	CAN_L	High side status output, Supply voltage level, max 100mA
7	CAN H	Interlock Circuit 1 Out to vehicle
8	Aux 1	Configurable In-/Output 1
9	Aux 2	Configurable In-/Output 2
10	Aux 3	Configurable In-/Output 3
11	Aux 4	Configurable In-/Output 4
12	Aux 5	Configurable In-/Output 5

Sequence Diagram



Technical Drawing



**E.g. for auxiliary output functionality, when a single Interlock Circuit is in use