

AST DC-Meter



AST INTERNATIONAL
ADVANCED SENSOR TECHNOLOGIES

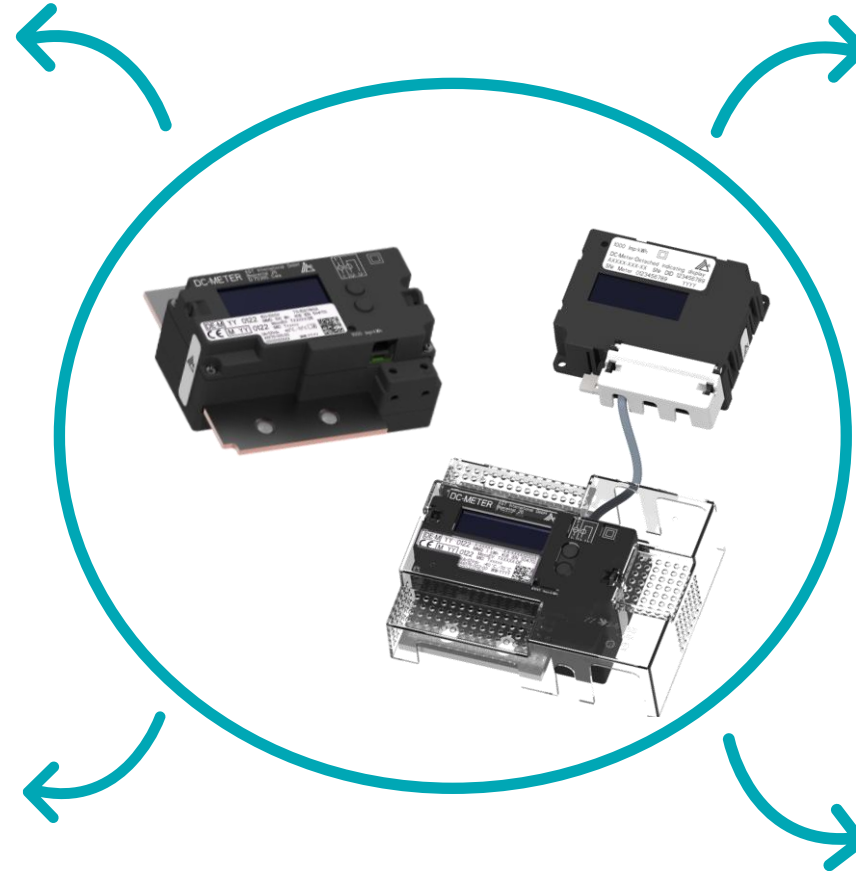


Communication protocol

- Transparent billing according to OCMF protocol
- Compatible with S.A.F.E. transparency software
- Acc. WELMEC 7.2 Software Guide

Design

- Compact DC-Meter
- DC-Meter with a detached display (up to 3m cable length)
- Continuous high current and voltage measurement up to 1000A and 1000V
- bi-directional DC-Meter
- retrofit: designed to replace existing solutions



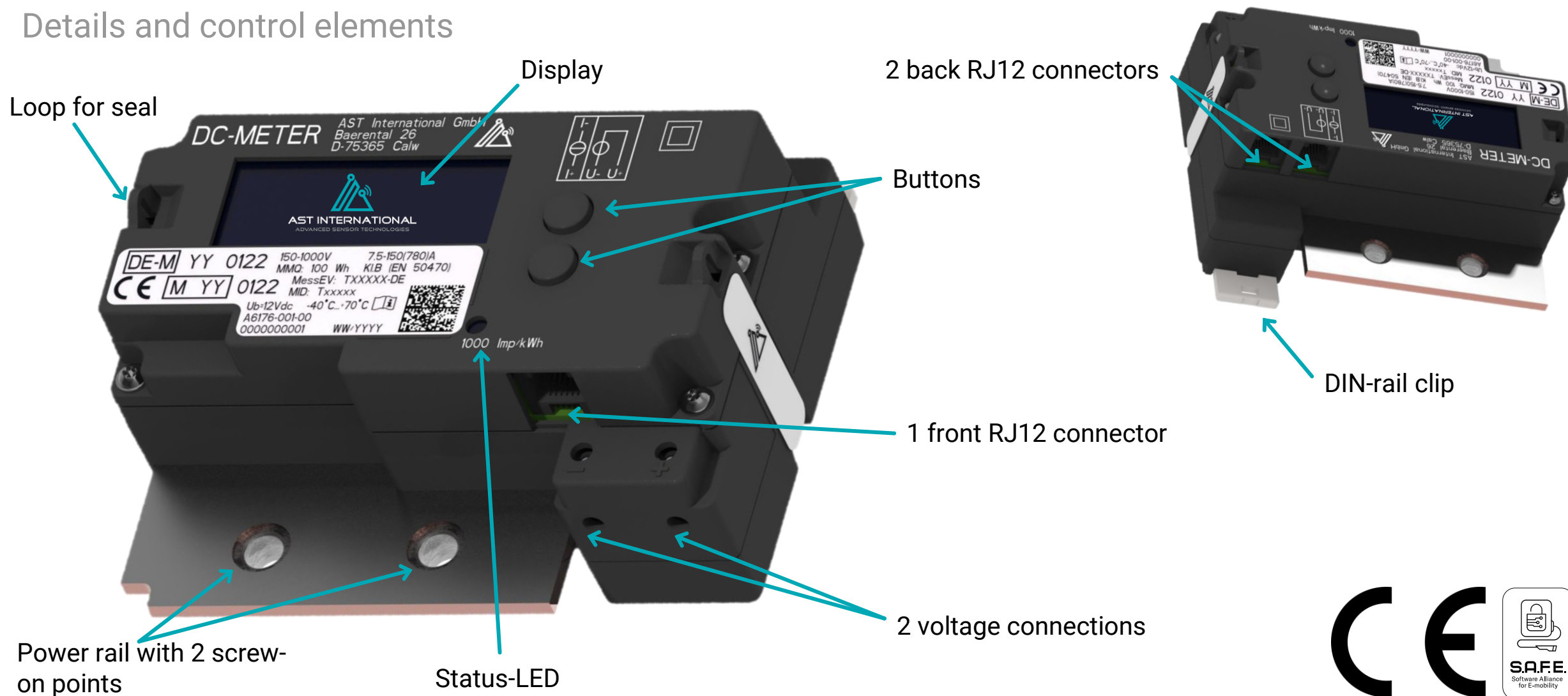
IoT

- Communication supporting Ethernet and RS485
- Backlighted LCD display (legal data and energy)
- NTP (Network Time Protocol)

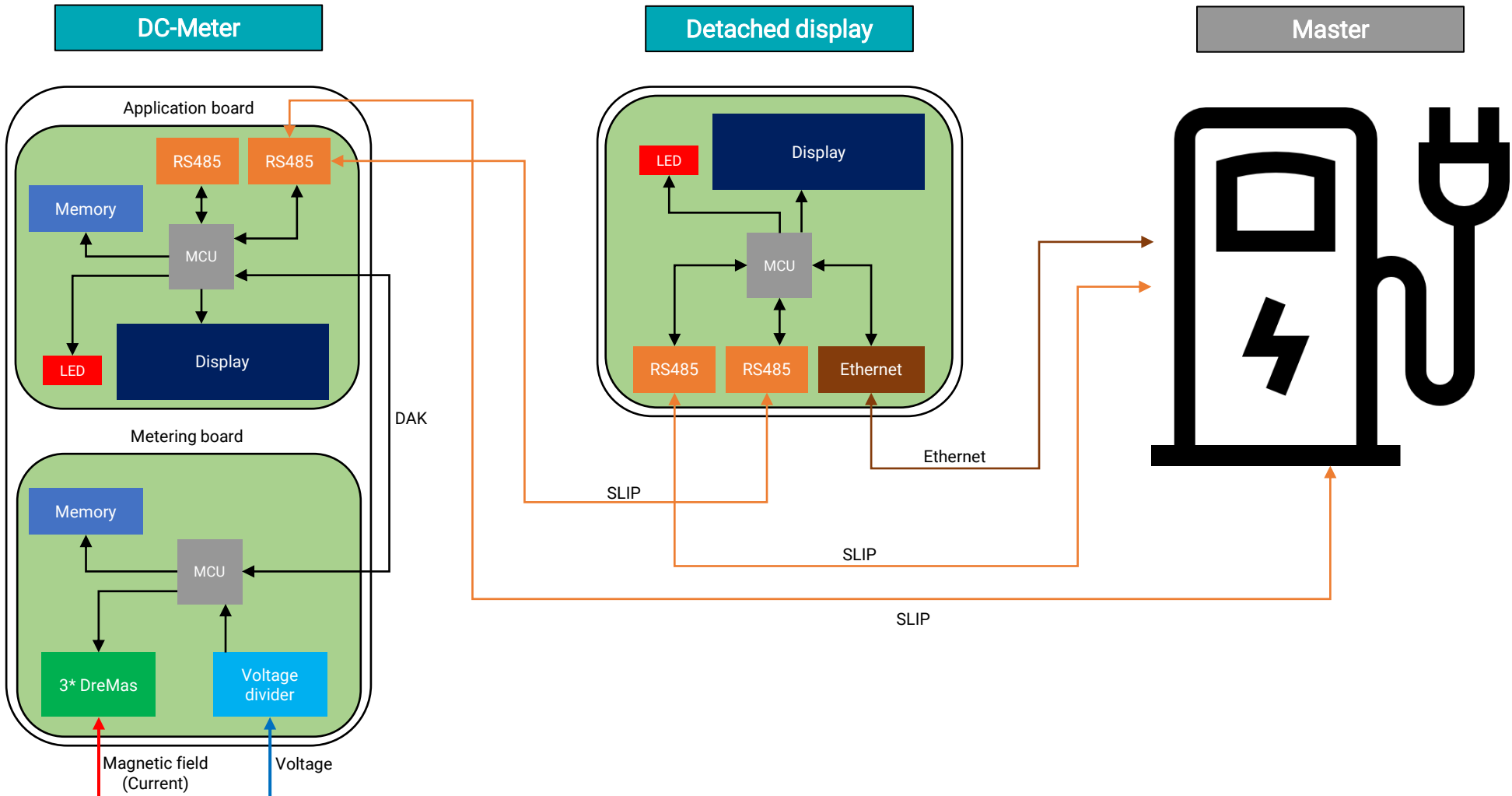
International Metering Standards

- Complies with the German Eichrecht, MID/MIR, UKCA, UL and French calibration law (Décision ministérielle 01-03-2022)
- EN 50470-3 / prEN 50470-4
- IEC 62052-11:2020
- IEC 62052-31 (Safety)

Details and control elements



System overview



Market needs

📡 Continuous current and voltage measurement for fast & ultra charging stations as well as Megawatt Charging Systems.

📡 High current up to 650A or 1000A

📡 High voltage up to 1000V



📡 DC-Meter conformity - certification according to

📡 German Eichrecht (Module B and Module D certified)

📡 MID / MIR

📡 French calibration law (Décision n° 22.00.570.001.1)

📡 UKCA

📡 UL compliance

📡 4-wire-measurement or software based cable compensation

📡 Compact DC-Meter or variant with a detached display

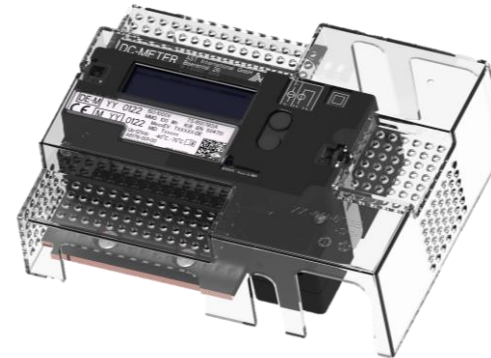
📡 Bi-directional energy measurement

AST DC-Meter – product overview

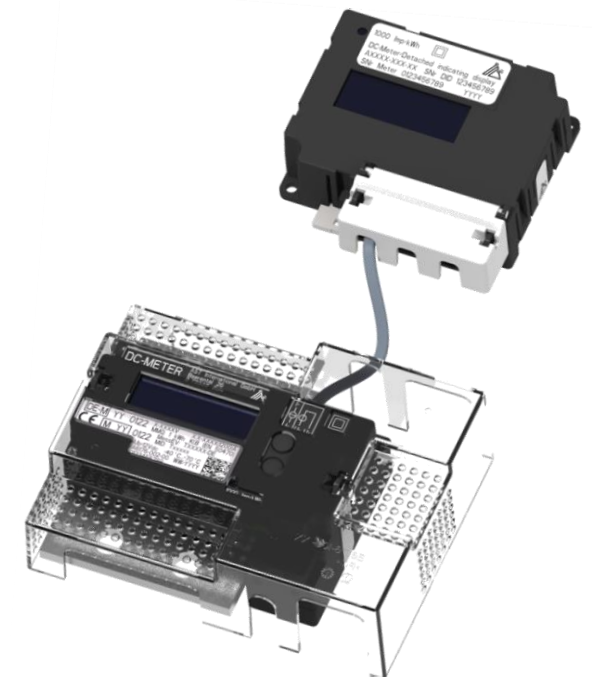
DC650	DC1000
Current measurement	
$I_n = 650A$	$I_n = 1000A$
$I_{min} = 7.5A$	$I_{min} = 12A$
$I_{tr} = 15.6A$	$I_{tr} = 24A$
$I_{max} = 780A$	$I_{max} = 1200A$
$I_{st} = 0.62A$	$I_{st} = 0.96A$
Voltage measurement	
$U_n = 1000V$	$U_n = 1000V$
$U_{max} = 1200V$	$U_{max} = 1200V$
$U_{min} = 150V$	$U_{min} = 150V$
Accuracy class	
<ul style="list-style-type: none"> Class B, MID (according to 2014/32/EU of the EUROPEAN PARLIAMENT AND COUNCIL, attachment V, MI-003) Class 1, IEC 62053-41:2021 	<ul style="list-style-type: none"> Class B accuracy starting at 10A, MID (according to 2014/32/EU of the EUROPEAN PARLIAMENT AND COUNCIL, attachment V, MI-003) Class 1, IEC 62053-41:2021

Both available in following design variations:

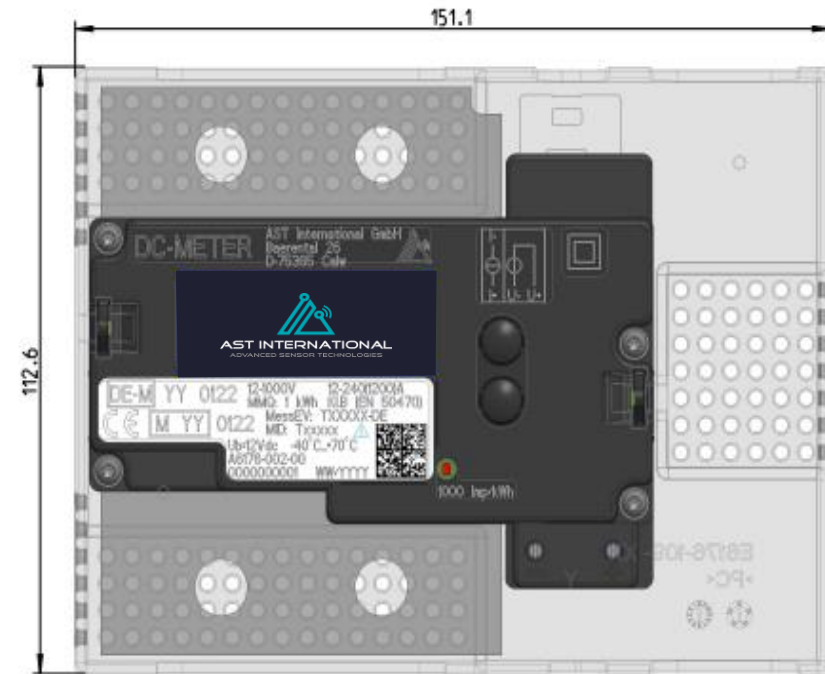
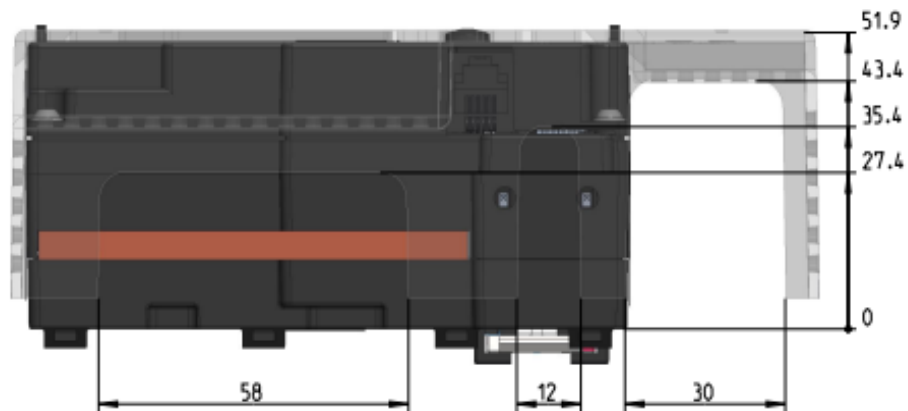
Compact Version



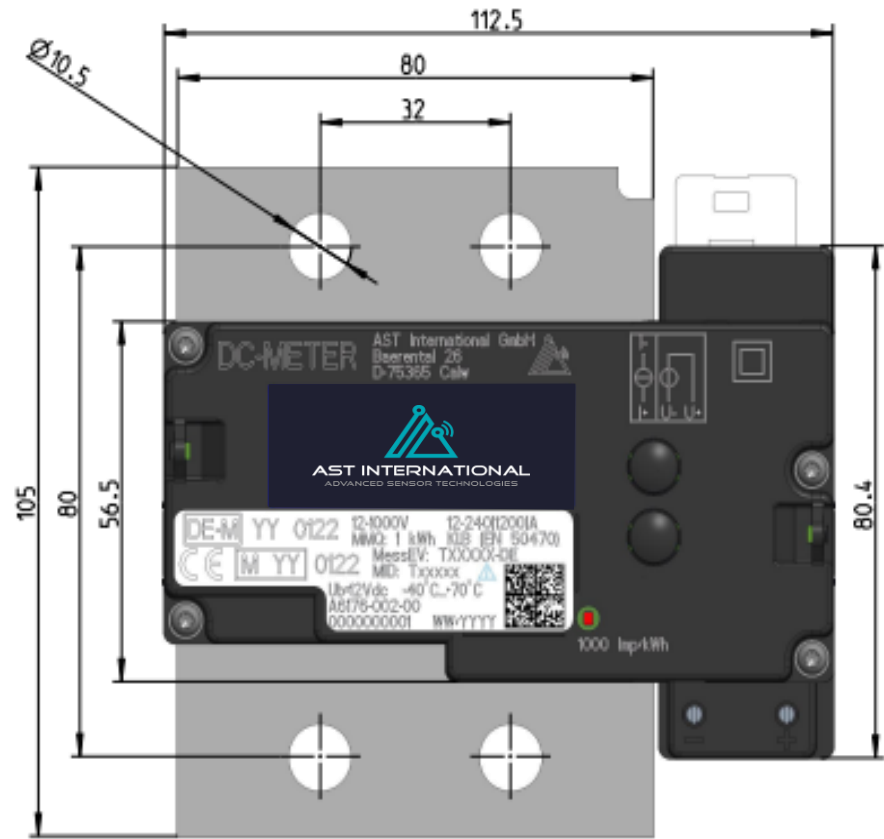
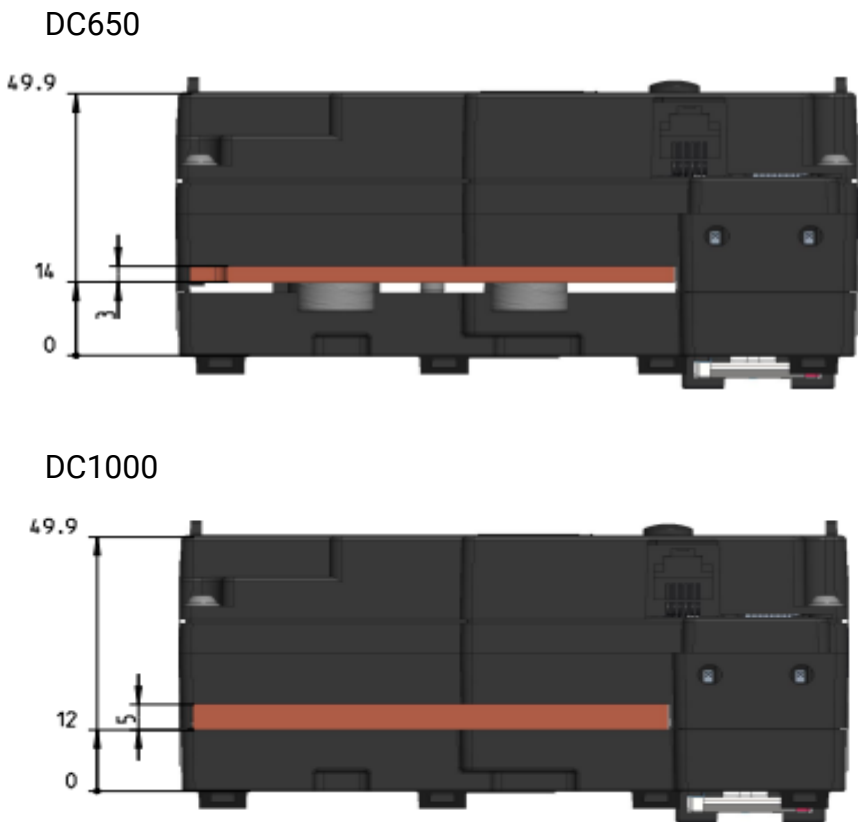
Detached Display Version



Dimensions **with** housing DC650 / DC1000 - **Compact Version**

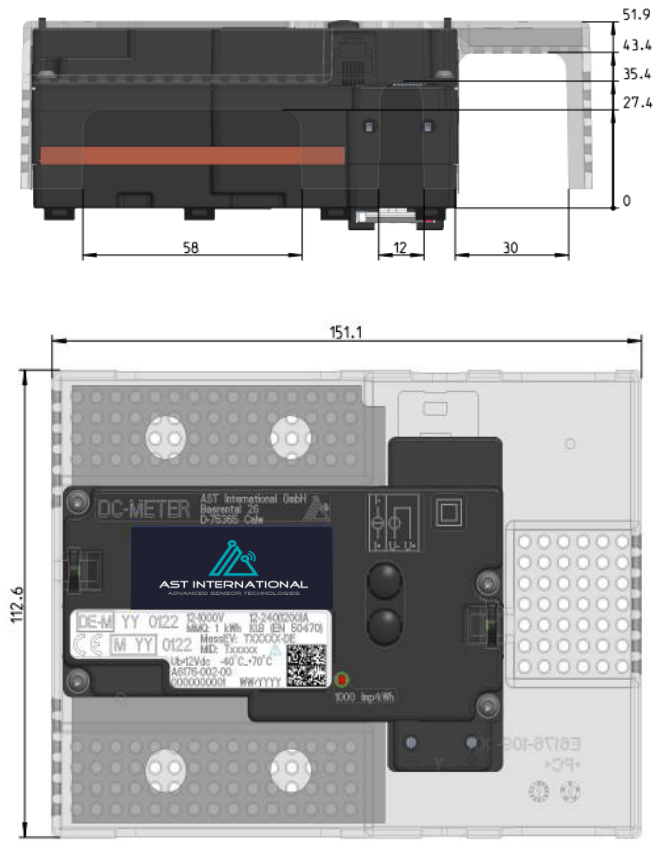


Dimensions **without** housing DC650 / DC1000 - Compact Version

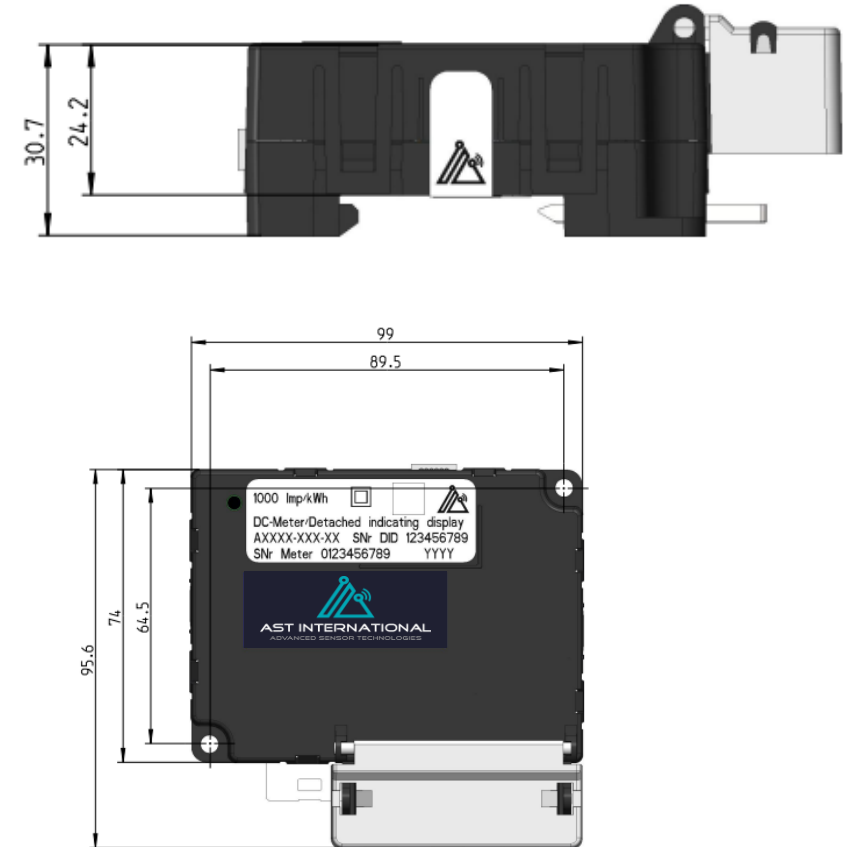


Dimensions **with** housing DC650 / DC1000 - **Detached Display Version**

Sensor Unit



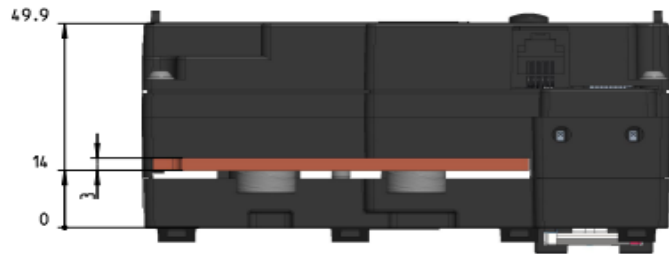
Meter Unit



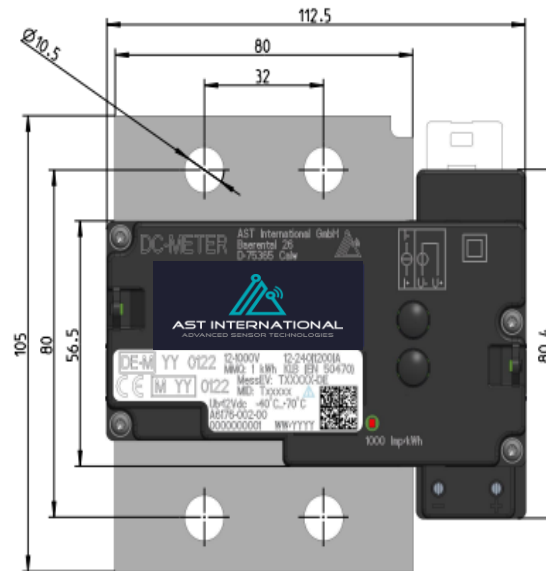
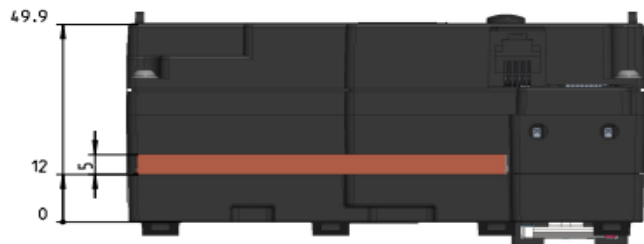
Dimensions **without** housing DC650 / DC1000 - **Detached Display Version**

Sensor Unit

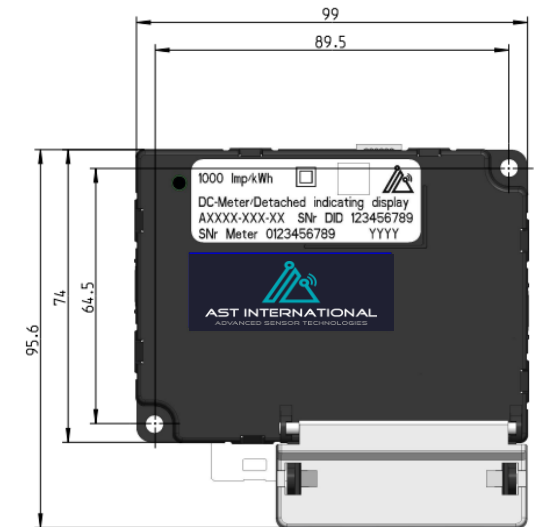
DC650



DC1000



Meter Unit



Key features

- ▲ Compact and robust design
- ▲ Bi-directional meter
- ▲ EN 50470-3 / prEN 50470-4
- ▲ IEC 62052-11:2020, IEC 62052-31 (Safety)
- ▲ IEC 62053-41:2021
- ▲ Charging cable resistance compensation or 4-wire-measurement
- ▲ Supply Voltage: 12V / 24V DC
- ▲ Meter Unit operating temperature range: -30°C to +80°C
- ▲ Sensor Unit operating temperature range: -30°C to +80°C
- ▲ Instantaneous data provided with a fresh rate at 500ms (current, voltage)
- ▲ Communication via Ethernet or RS485
- ▲ Encapsulated with OCMF protocol (S.A.F.E., transparency software) and signed data
- ▲ Rated insulated voltage at 1000V DC
- ▲ Production site approved acc. to Module D (German legislation, MID and MIR)
- ▲ External flash memory with capacity of 235.000 entries (start- and stop-transactions)

Description

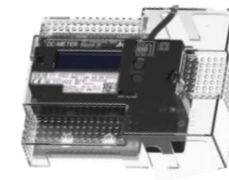
- ▲ **Meter Unit:** interface between the charging station (via Ethernet, RS485) and sensor unit as well as presenting the measuring data to the client.



- ▲ **Cable:** transmits data from the sensor unit to the meter unit. Capable to reach length up to 3 meters.



- ▲ **Sensor Unit:** measures the current and voltage. The calculated kWh are transmitted to the meter unit.





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