

CEDD® HPS Basestation

Components

CEDD® AGL
Airfield Ground Lighting
Power, Control and Monitoring System



An introduction to CEDD® AGL

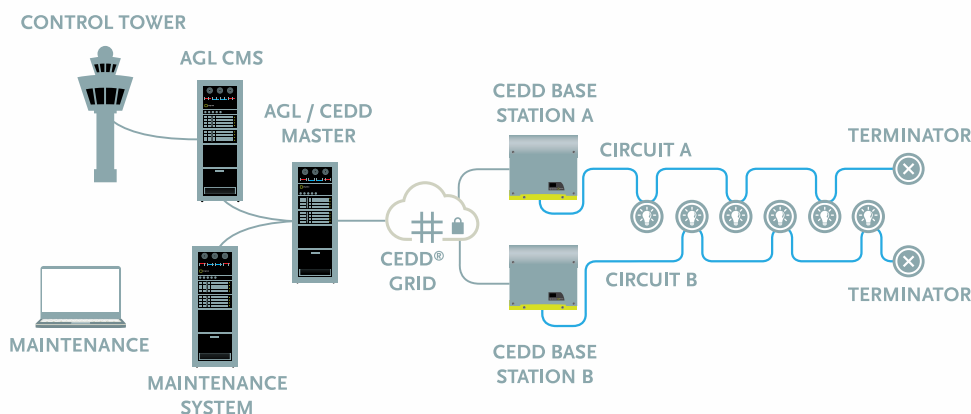
CEDD® (Contactless Energy and Data Distribution) AGL LED lighting has been developed in close collaboration with various international airports, AGL Designers, Installers, Operators and Owners/Investors. The result represents a perfect incorporation of individual requirements, special situations and needs of the airport as a whole. The CEDD® AGL portfolio includes CEDD® HPS Basestations, CEDD® Cable systems and the entire programme of CEDD® fixtures, elevated and inset lights for runways as well as taxiways and aprons. Being a market leader and technology driver, our focus is on continued further development of the current standards and setting new standards, in particular, intelligent electrical control and monitoring. One result is our development of an innovative LED concept ranging from civil and military airports to helicopter landing pads, which completely meets the international standards (ICAO, FAA, STANAG etc.). Another achievement is our ground-breaking power and communication CEDD® platform.

Changing to CEDD® LED lighting is advantageous and profitable in several ways. At first, the advantages of the LED technology compared to halogen light technology. Additional advantages in our AGL solution are given by our CEDD® technology, savings in the civil AGL infrastructure – e.g. no need of manholes and transformer pits - and in the electrical infrastructure – no transformers, less cables, no infield electrical connectors, additional power consumption savings etc. New functionalities have become a standard integrated into the CEDD® technology, which results in improvements in TCO and the BEST IN CLASS asset management performance and a proactive approach to SAFETY. Our CEDD® AGL solution is robust, simple and flexible, sustainable and future proof because of our leading and trendsetting vision.

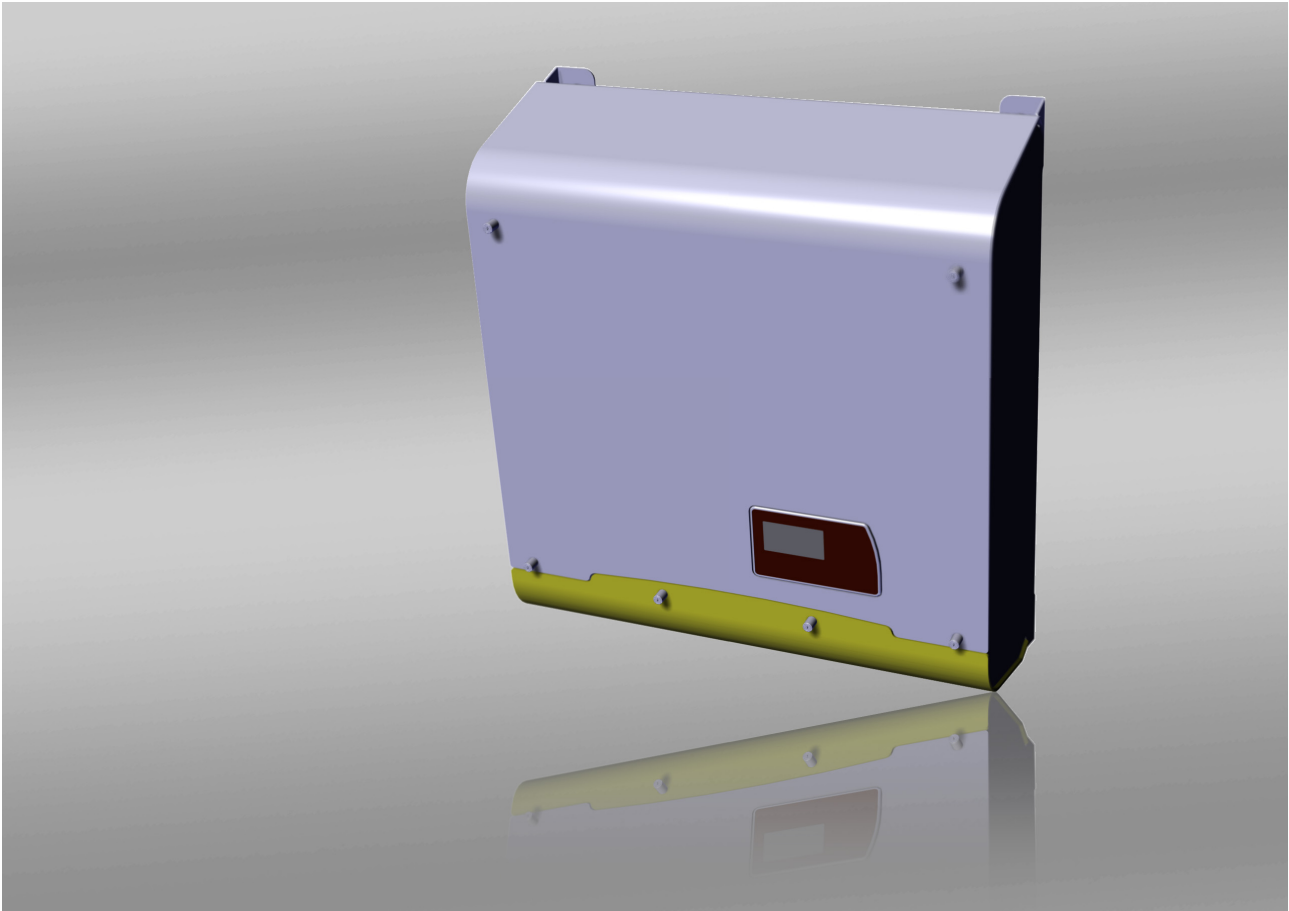
What is CEDD®

CEDD® is an innovative contactless energy and communication technology. Energy and data transport are combined in a twisted pair cable system; an HPS Basestation with contactless fixtures. With this structured connectivity concept, escape lighting in tunnels or lighting for helicopter decks and airfields can easily be installed or replaced without making galvanic (electrical) contact with the power/data cable.

The CEDD® system has been specially designed for demands where high safety requirements and uninterrupted operation of Airfield Ground Lighting Systems on airports are essential. Main advantages of CEDD® connectivity platform are: no connectors and no electrical (galvanic) contact with the cable, energise and bi-directional communication of the fixtures in modular and distributed system topology. This will result in some key advantages of the CEDD® system, such as: simple and easy to use, ultra safe, faster installation, support of maintenance 2.0 with its built-in asset management system and attractive financial savings.



For more information about CEDD®, please visit: <https://www.tkh-airportsolutions.com/>



The CEDD® HPS Basestation is a key component of the CEDD® AGL system.

The CEDD® HPS Basestation distributes energy to the CEDD® fixtures and communicates bi-directionally by means of the CEDD® cable. Bi-directionally means that the CEDD® HPS Basestation sends assignments to the fixtures and the fixtures send information about their status back to the CEDD® HPS Basestation. Each fixture is contactless connected to the CEDD® cable.

HPS means High Power System. The CEDD® HPS Basestation has been designed to supply a power up to 2.6 kW to the connected fixtures.

The CEDD® HPS Basestation can operate stand alone or can be controlled remotely.

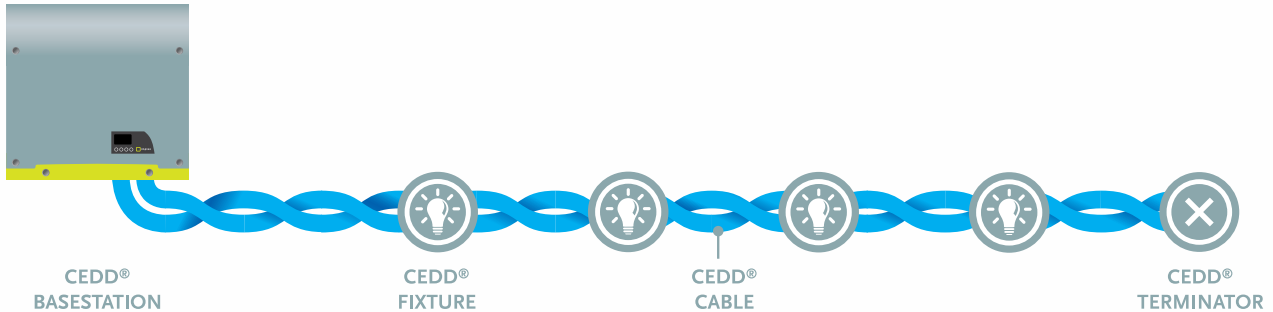
Key features

Some of the key features of the CEDD® HPS Basestation are:

- Extreme long life
- High Power
- CEDD® advanced communication protocol for Status, Control and Diagnostic Support

Position in the CEDD® AGL system

A typical CEDD® AGL system consists of a CEDD® HPS Basestation that distributes power and bi-directional communication through the CEDD® cable to a CEDD® fixture. A CEDD® terminator ensures the correct characteristic impedance in the CEDD® system.



A CEDD® AGL system can have multiple CEDD® HPS Basestations.

A CEDD® master station can be used to communicate with multiple CEDD® HPS Basestations.

Standards

The CEDD® HPS Basestation is compliant with applicable parts of the following standards:

- EN-IEC 61000
- EN-IEC 61010
- EN-IEC 60068
- NATO - AECTP-100-series
- us Military MIL-STD-810G and 461
- uk Defense Standard 59-411

Specifications

Environmental requirements

Description	Values
Operational ambient temperature	+5 °C to +50 °C ⁽¹⁾
Operational relative humidity	10 % to 90 % (non-condensing) for temperatures between +5 °C to +30 °C ⁽²⁾
Pollution degree	II or better

1. The maximum output power can be delivered for ambient temperatures up to 31 °C, decreasing linearly with 50 W/°C up to 50 °C.
2. The maximum relative humidity is 90 % for ambient temperatures up to 31 °C, decreasing linearly to 50 % relative humidity at 50 °C.
3. According to IEC 60529 and tested at installation position with tilt angle of 0 degrees (vertically falling drops).

Power supply protection specifications

Description	Values
IEC protection class	Class I
Circuit breaker for mains power in	16 A _{AC} , type B according to IEC 60898
Circuit breaker for logic power in	16 A _{AC} , type B according to IEC 60898

Power AC mains input

Description	Values
Rated voltage and frequency	230 V _{AC} /50 Hz
Current at full load	13 A _{AC} at 230 V _{AC}
Over voltage category (OVC)	OVC-III
Connector	Phoenix Contact PC 5 / 3-GF-7, 62-1720806
Pin assignment	Pin 1 - L(ine) Pin 2 - N(eutral) ⁽¹⁾ Pin 3 - Protective earth ⁽¹⁾
Connection type	Permanently connected to the AC mains supply
Contra-part	Phoenix Contact PC 5 / 3-STF1-7, 62-1777846

1. Power AC mains and Logic AC mains inputs must be supplied with common neutral and common protective earth.

Logic AC mains input

Description	Values
Rated voltage and frequency	230 V _{AC} /50 Hz
Current at full load	0.6 A _{AC} at 230 V _{AC}
Overvoltage category (OVC)	OVC-III
Connector	Würth 691317410003
Pin assignment	Pin 1 - L(ine) Pin 2 - N(eutral) ⁽¹⁾ Pin 3 - Protective earth ⁽¹⁾
Connection type	Permanently connected to the AC mains supply
Contra-part	Würth 691340400003

1. Power AC mains and Logic AC mains inputs must be supplied with common neutral and common protective earth.

Connectors for CEDD® power output

Description	Values
Connector	Weidmuller 1813580000 (3 pin)
Pin assignment	1 – CEDD Out1 2 – Do Not Connect! 3 – CEDD Out2
Contra part	Weidmuller 1924630000 (3 pin)

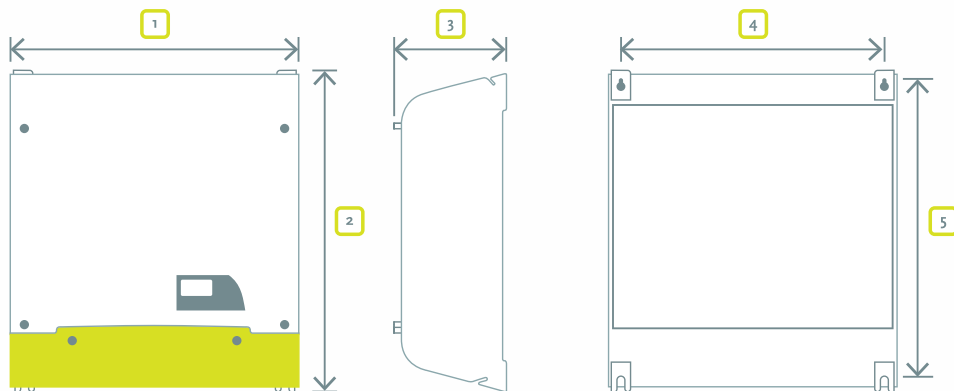
Connectors for LAN1 and LAN2 ports

Description	Values
Connector	RJ45 (jack)
Ethernet standard	10/100 BaseT
Ethernet speeds	10/100 Mb/s
Ethernet cable	Cat-5e STP

Dimensions

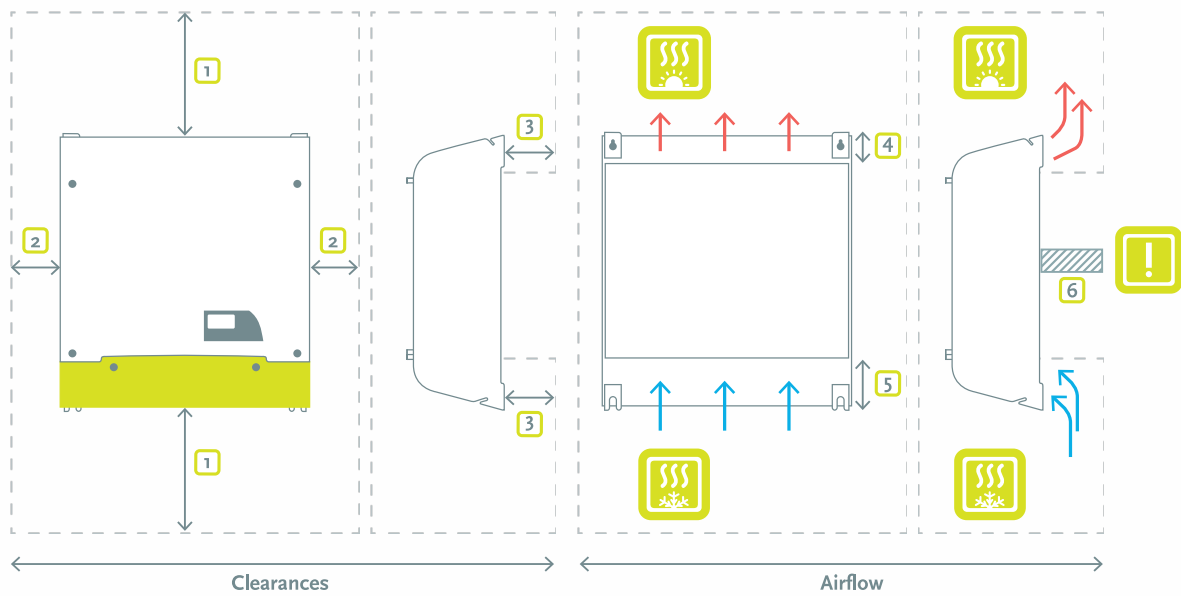
Outer dimensions

Pos.	Description	Values
1	Width	480 mm
2	Height	545 mm
3	Depth	193 mm
4	Horizontal screw hole distance	430 mm
5	Vertical screw hole distance	500 mm



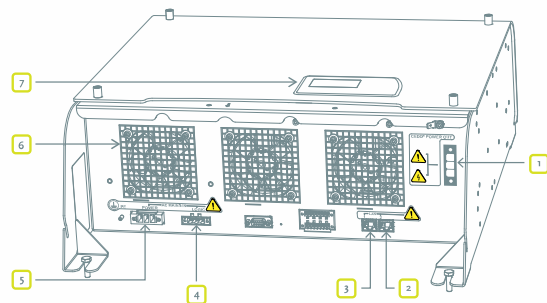
Clearances for appropriate airflow

Pos.	Description	Values
1	Top and bottom clearance	Min. 250 mm
2	Left and right clearance	Min. 100 mm
3	Distance from the wall	Min. 80 mm
4	Hot air exhaust	80 mm
5	Cool air intake	120 mm
6	Airflow provision	Needed to prevent recirculation of warm air from the outlet into the inlet



Components

1. CEDD® power out
2. LAN 2
3. LAN 1
4. Logic AC mains in
5. Power AC mains in
6. Ventilator (3x)
7. Display



Options

- n.a.

Accessories

- Contra-part power mains input
- Contra-part logic mains input
- Contra-part CEDD[®] power output

Packing data

HPS Basestation

Packing material	Dimensions	Gross weight	Net weight
Cardboard box	648 x 538 x 277 mm	22 kg	19.5 kg

Ordering code

Please download our configuration tool at <https://www.tkh-airportsolutions.com/airfield-products/> or scan:



Installation

For the installation of CEDD[®] HPS Basestation please see manual:

05_CEDD_HPS_Basestation_Manual_03-70092



Document information

Name : o4_CEDD_Basestation_o3-70007

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For the latest version of this document see <https://www.tkh-airportsolutions.com/airfield-products/> or scan:





Notes

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Notes

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Company profile:

TKH Airport Solutions is a provider of comprehensive range of Airfield Ground Lighting products. It includes powerful, highly reliable top of the range LED lighting products as well as future-proof technologies to better power and communicate with your LED lights. With our CEDD-AGL solution, we seamlessly integrate the needs of airports with new airfield network technology.

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