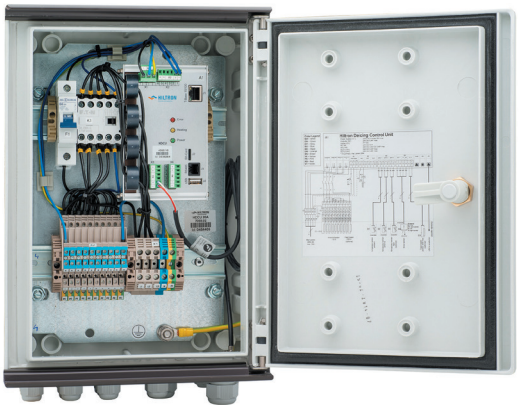
HDCU - Hiltron De-icing Control Unit

Web-based Antenna De-icing System

Combined De-icing sensor and dish heating system for direct control of small to medium satellite antennas.



Features

- 230 V single phase or 400V three phase supply.
- Three dedicated circuits for heater control to connect up to three pads per circuit.
- One additional circuit for feed or sub-reflector heater control (230 VAC).
- One circuit for feed heater control (24 VDC).
- Heater current control and protection.
- Max. current per segment (phase) 20 A.
- Processor controlled de-icing with four sensors.
- Ethernet interface for M&C.
- Web based user friendly operator interface.
- Control via SNMP.

Options

- Logical control inputs and outputs for manual remote operation.

The Hiltron De-icing Control Unit HDCU is a combined de-icing sensor and heating control system built for outdoor applications. It is primarily designed for direct control of small to medium (14 kW) electric satellite antenna de-icing systems.

The Control Unit provides three antenna heater circuits plus one feed/sub reflector heating circuit for load control. Each of the three heater circuits (see figure) can supply up to three antenna heater pads. Thus in total 9 heater pads can be connected. The permitted current for the three heater circuits is controlled and monitored independently via LAN or SNMP. For the supply of a feed/sub-reflector heating with 24V, a further independent monitoring and control circuit is implemented. In case of 230V supply for feed/sub-reflector a further separately monitored heater circuit is available.

The Hiltron Antenna De-icing Control Unit provides a manual control mode. In manual operation the heater function can be switched on or off the detected currents and temperatures, are still monitored and available via Web-interface or SNMP.

Optional logical control inputs and monitoring outputs are provided to control the antenna de-icing remotely.

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HILTRON Communications

Specifications

Electrical

Power consumption of Control Logic:	AC input: 85-245V; 47-63Hz; Standby power < 4 W
Power capability (3-phase):	max.20A@400VAC (per phase)
Power capability (1-phase):	max. 3 x 20 A@230 VAC
Current for 3 common supplied heater pads:	max. 20 A@230 VAC

Sensors

Temperature sensors:	PT 100 (ambient) PT 100 (on antenna) PT 100 (on feed, option)
Snow sensor:	Reflective Sensor with polarization filter

M&C- Parameters

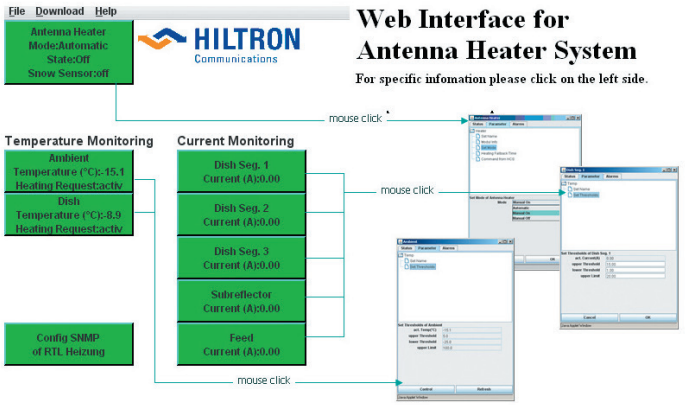
Heater currents limits (upper and lower threshold)	heater circuit 1/2/3 (ant. dish) heater circuit 4 for feed/sub-reflector heater - 24 V supply - for feed
Heater currents safety limits:	heater circuit 1/2/3/4 and heater - 24 V supply - for feed
Monitoring of parameters	Currents, settings, statuses
Control parameters:	Thresholds for activation and deactivation of heating, heating delay

M&C - Interfaces

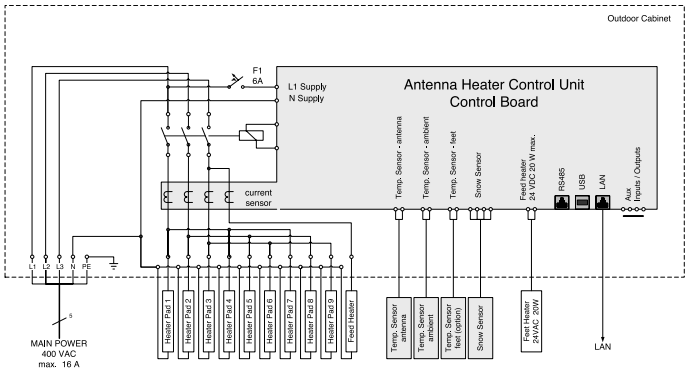
LAN interface:	Ethernet / IEEE802.3 Data transfer rate: 10 Mbit/s Connector: RJ45 Communication: Web / SNMP
USB interface:	for maintenance (data logging, software update)
RS485 interface:	Type: RS485 Connector: RJ11 Baud rate: 38400 Baud
Control input:	option
Monitor output:	option

Mechanical / Environmental

Size:	250 x 350 x 160 mm³.
Weight:	5.5 kg
Temperature:	
- Operating:	-30°C to +50°C
- Non operating	-40°C to +80°C
Humidity:	
- Operating:	5% to 95% non-condensing
- Non operating:	0% to 100% non-condensing
Housing:	IP66
CE safety :	EN60950-1 / UL 60950
CE EMC:	EN 55022 Class B
Emissions:	EN 61000-6-4
Immunity:	EN 61000-6-2



Antenna De-icing – Web interface



Antenna De-icing – Circuit Diagram

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