

# Remote Control Unit Satellite Uplink Power Control Unit



WORK Microwave’s remote control unit is perfect for use with outdoor converter units. Via the front panel, operators can manually control the configuration of an outdoor converter similar way to what is possible for indoor converter units.

Versions that enable the operator to control more than one converter from the same unit are available (Options Dual and Multi).

Remote control of the complete setup via RS232, RS485, or IP over Ethernet is possible utilizing this control unit. In addition, alarm relay outputs are provided. For connection to the outdoor unit or to the remote controlled unit in general, an RS485 connection is used.

## Uplink power control

Uplink power control is a hardware and software option for the Remote Control Unit.

This feature senses a DC signal from a beacon receiver. If due to additional atmospheric attenuation caused by rain, snow, clouds, fog, or an antenna misalignment the beacon signal is attenuated, the transmitted signal is increased proportionally until a configurable maximum additional gain is reached or the maximum gain of the Upconverter is reached.

The uplink power control uses a DC signal from a beacon receiver and also provides an input for a lock signal or alarm signal from a beacon receiver.

The following parameters can be configured:

- Uplink power control on/off
- Maximum gain increase in reference to clear sky gain

- Sampling and update period in seconds
- Ratio between decrease of beacon signal and increase of transmission signal (due to difference of rain attenuation effect for different frequencies)
- Clear sky value of DC beacon receiver signal
- Sustain period in seconds (up to 3600 seconds) for which the uplink power control keeps the last gain increase value (in case of deep fade conditions where the beacon receiver can lose lock for some period of time).

The following specifications can be monitored:

- DC signal from beacon receiver
- Calculated attenuation of beacon signal
- Current gain increase of transmission signal

As LNAs or LNBs may show gain variation over temperature, which would mislead the uplink power control algorithm, there is an optional input for a temperature sensor. A temperature sensor can be mounted close to these LNAs or LNBs. The characteristic for the temperature compensation can be configured (only on Standard Remote Controller).

# Remote Control Unit

## Satellite Uplink Power Control Unit

Model	RC-CO Remote Control for Outdoor Units
<b>Monitoring and Control Interface:</b>	RS232 or RS422/RS485 (Connectors DSUB09 female) (selectable by customer), IP over Ethernet
<b>Internal Monitor and Control Interface to controlled unit(s):</b>	Standard: RS422/RS485 Alarm Signal DC Supply from ODU 12...24 V Connector: DSUB25 male  Option PS: RS422/RS485 Alarm Signal DC Supply to ODU 24 V Connector: DSUB25 female  Option Dual/Multi: RS422/RS485 Connector: DSUB09 male
<b>Beacon Receiver Interface: (Option UPC or UPC/TS)</b>	Differential DC Input: Voltage Range DC-In+: 0 ... 12 V Voltage Range DC-In-: -12 ... 12 V DC-In+ / DC-In-: max 12 V Input Impedance: approx 10 k $\Omega$  Beacon Receiver Alarm Input: TTL Input, Pull-Up to 5 V with 1 k $\Omega$ , suitable for external relay closure to GND  Connector: DSUB09 male
<b>Temperature Sensor Interface: (Option UPC/TS)</b>	Output Current: 1 mA, DC Voltage Sensing Suitable for Temperature Sensor: KTY19-6M (2 k $\Omega$ @ 25 °C) Connector: DSUB09 female
<b>Temperature Range:</b>	-30 °C ... 60 °C operating (the LCD display is operational: -20 °C ... 60 °C) -30 °C ... 80 °C storage
<b>Relative Humidity:</b>	< 95% non condensing
<b>User Interface:</b>	LCD, 2 x 40 characters, 4 cursor keys, 2 function keys, Status LEDs
<b>Mains Power Input:</b>	Option PS, Dual, Multi: 100 ... 240 V AC nominal, 90 ... 264 V AC max 50 ... 60 Hz Option PS can supply DC power from remote control to converter unit
<b>Mains Power Consumption:</b>	Option PS, Dual, Multi: Typ: 10 VA / 6 W, Max: 55 W
<b>Mains Power Input Connector:</b>	IEC C14
<b>Mains Fuse:</b>	2.0 A time-lag fuse
<b>Dimension and Weight:</b>	483 x 44 x 270 mm <sup>3</sup> (WxHxD), 1 RU (19") approx. 4 kg

Specifications are subject to change

### Order Information:

RC-CO-[Options]

### Possible Options are:

<b>UPC</b>	Uplink power control
<b>UPC/TS</b>	Uplink power control with temperature sensor
<b>PS</b>	Power supply on RC-CO
<b>DUAL</b>	Remote Control for two frequency converters
<b>MULTI</b>	Remote Control for up to 8 frequency converters
<b>T</b>	Remote Control for dual channel tracking converters

### Cannot be combined with:

T
DUAL, MULTI, T
DUAL, MULTI
UPC/TS, PS
UPC/TS, PS
UPC, UPC/TS

### Examples:

RC-CO  
RC-CO-UPC  
RC-CO-PS  
RC-CO-Dual