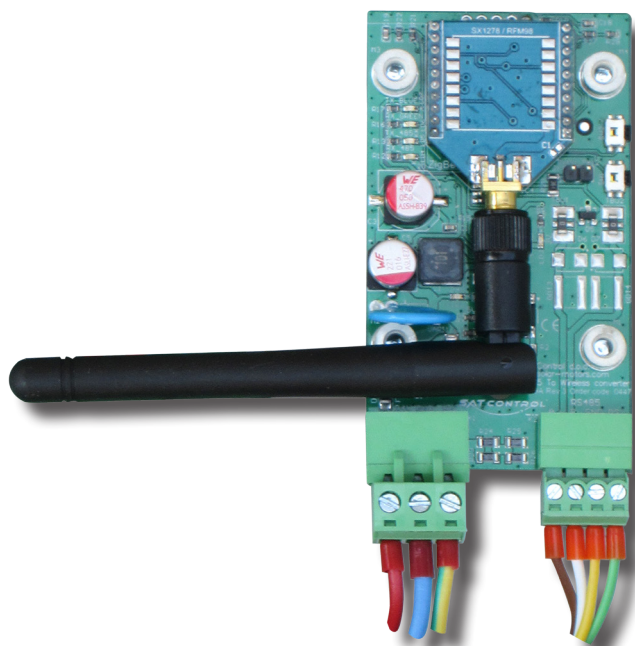




Converter RS485 to LoRa LR01 WL. com. module,  
DIN rail TIV49A\_R6 w antenna, CONV-RS4852LORA

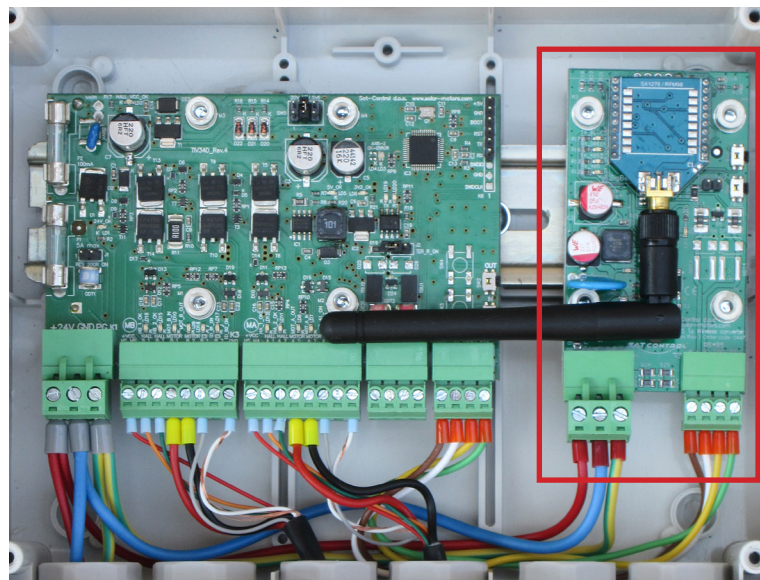
Code: 0447



Master converter,  
at SIGMA side:



Slave converter at  
the positioner side:



## Converter RS485 to LoRa for Single or Dual Axis Tracking

The Converter RS485 to LoRa wireless, DIN rail, USB-C, TIV49A\_R6, with antenna 433MHz is used for replacement of wire communication to a wireless radio communication. This converter acts as communication interface and converts RS485 communication into LoRa wireless network. On the other side, this module also converts wireless LoRa radio signals back to wired signals. It can work as a master-coordinator on Sigma side, also as a slave router and endpoint on Nano / Quark / Micro / Pico side. The installation is easy, assembly and connection concept is not complicated. Module is ideally suited to convert the wire communication into wireless in middle-sized and large on-grid solar power plants. Its benefit is to use it due to lightning strikes, due to too high potential voltage differences between sectors of solar power plant and because of too long distances of cables. Consequently also because of the costs of laying the cables into the ground and cables itself.

## Overview

### Professional use

- Wireless communication interface between SIGMA and positioners.
- Integration of Sat Control equipment into existing control-room technology
- Automatic update of firmware from Sigma – RS485 or wireless (OTA)

### Flexible

- Data interface in accordance with custom MODBUS communication standards in the field of automation technology
- Simple and fast installation, high reliability
- Possibility of replacing the LoRa and ZigBee interface without replacing the converter
- Possibility of using converters for routing to out of line-of-sight positioners

### Reliable

- Direct communication with the Sigma Solar Server via RS485 Service Interface
- Meets the requirements of the EU Low-Voltage Directive for grid safety management
- LoRa Wireless network, easy installation which means no communication cables for installation on ground
- Less chances of spreading damages due to lightning strike



## Technical Capabilities

Operation	
Geometrical Operation	for Single / Dual Axis Positioners up to 48 devices on one converter
Type	Sigma side as master converter, positioner side as slave converter (sold separately)
Communication	
Positioner communication	custom MODBUS (RS485)
Wireless communication protocol – LoRa	433MHz physical layer protocol
Interfaces	
Max. number of controlled devices	up to 48 different positioners
USB-C 2.0 communication interface	for Helios Analytics software (for set-up)
Max. communication range	
Wireless range	1 km on open field, up to 5 hops via other Lora converters is 5 km
Power supply	
Power supply	External SMPS type required (not included)
Input voltage	+24 VDC +5% / -50%
Power consumption in idle	+0,25 W
Environmental conditions in operation	
Ambient temperature	-30°C ... +80°C
Relative air humidity	0% ... 85%, non-condensing
General data	
Dimensions (L / W / H) in mm	81-150 / 45 / 25
Weight	55 g
Mounting location	Indoor
Mounting options	DIN RAIL mounting 35/7,5 mm
Status display	LEDs for; power (3), RS485 TX/RX (2) + LoRa RX/TX (2)
Signal power programmable	up to 158 mW (22 dBm), up to 1W module with additional module
Manual buttons	2 (Bind and Boot)
Upgrading	In the field via Sigma through Wireless network (OTA) with LoRa module via USB-C interface using Helios Analytics software via RS485 wired connection to Sigma
Languages	
Language versions – manual	English
Features	
Warranty	2 years*
Certificates and approvals	CE
Life Time	Min. 10 years; typical 20 years

\* Optionally more for additional payment