SATEL XPRS Optimum IP radio router

- SATEL XPRS Optimum with encryption (YF0410)
- SATEL XPRS Optimum without encryption (YF0415)

Technical specification

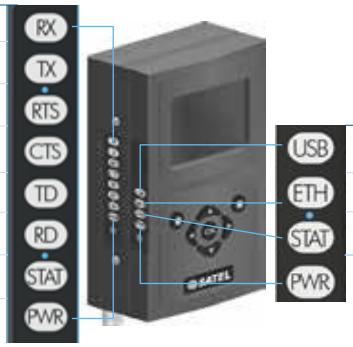
Subject	Value
Frequency range	400 … 445 MHz
Tuning range	45 MHz
Channel spacing	12.5 / 25 kHz selectable
Modulation	2, 4, 8, 16 QAM Upgradable: 32 and 64 QAM
Interface	Ethernet, RS-232, RS-422/485
Operating voltage	+10.6 … +30 Vdc
Max. power consumption RX / TX	5.2 W / 15.8 W
Modulation/ Air speed / Sensitivity (BER 10E-3)	4QAM: 40.3 kbps @ 25 kHz / -111 dBm 4QAM: 20.2 kbps @ 12.5 kHz / -113 dBm 16QAM: 80.6 kbps @ 25 kHz / -105 dBm 16QAM: 40.3 kbps @ 12.5 kHz / -106 dBm
Max. TX power (nominal)	37 dBm (5 W) *Mean: Average 30 dBm (1 W), max. 32 dBm (1.5 W)* *PEP: Average 37 dBm (5W), max. 38 dBm (6.6 W)*
Connectors	Power, RF (TNC female), ETH (RJ45), USB-A, USB-B, 2 x D9 female
Size RU+CU H x W x D (LED side view)	130 x 77.2 x 76.5 mm
Weight	940 g

Configuration of the technical parameters is easy with SATEL NETCO, centralized configuration software.

NOTE! Web user interface for configuration and diagnostics is available only for standard SATEL XPRS IP radios

LEDs

LED	Description
RX	Receive data over radio
TX	Transmit data over radio
RTS	Request To Send, serial interface
CTS	Clear To Send, serial interface
TD	Transmit Data, serial interface
RD	Receive Data, serial interface
STAT	ON: power is on
PWR	ON: power connected

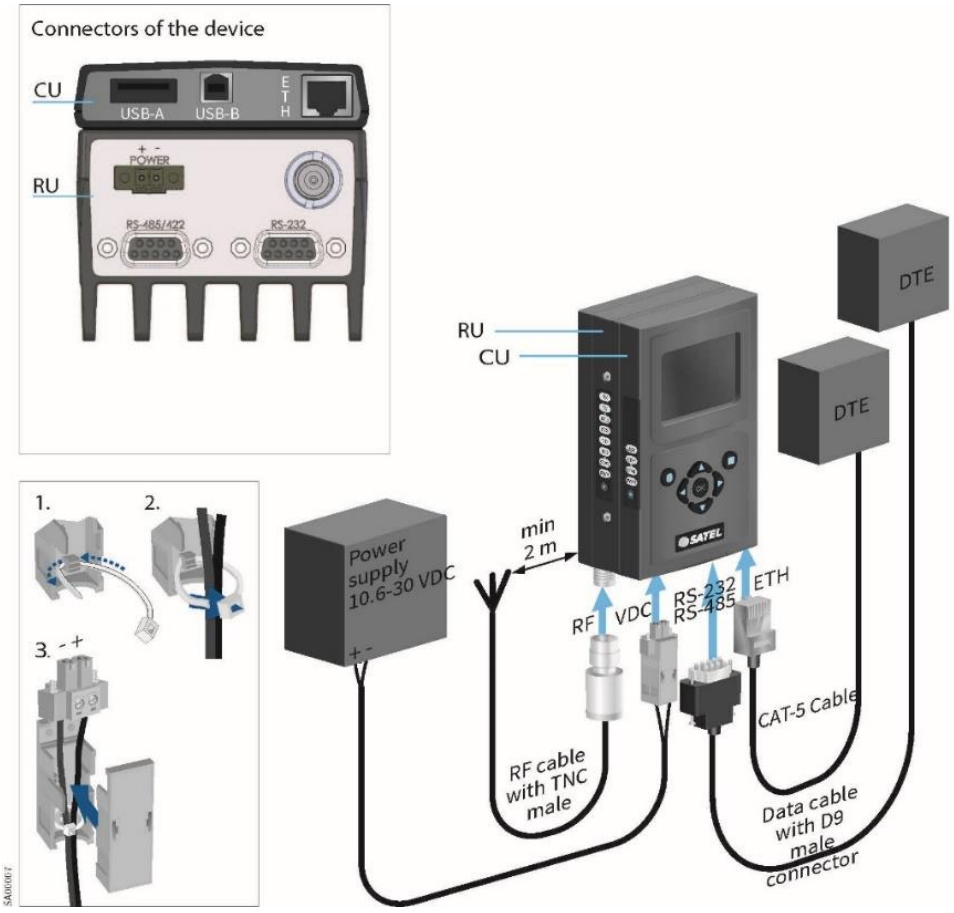


LED	Description
USB	(for USB-A) Blinking: not connected. ON: connected
ETH	Blinking: not connected. ON: connected
STAT	ON: power is on. Blinking: unit starting
PWR	ON: power connected

After powering the device Radio Unit starts ≤2.5 seconds and units STAT LED stops blinking. It takes ~2 minutes for the Central Unit to boot-up completely. During this time the STAT LED will blink at the unit. The boot-up process can be viewed from the LCD user interface.

Typical setup

The figure below shows a typical setup when transferring data through the device. The recommended minimum distance between the antenna and the central unit is 2 meters in order to avoid degradation of the receiver sensitivity due to the radiated interference from the central unit.



Pinning order for SATEL XPRS Optimum RS-232 interface

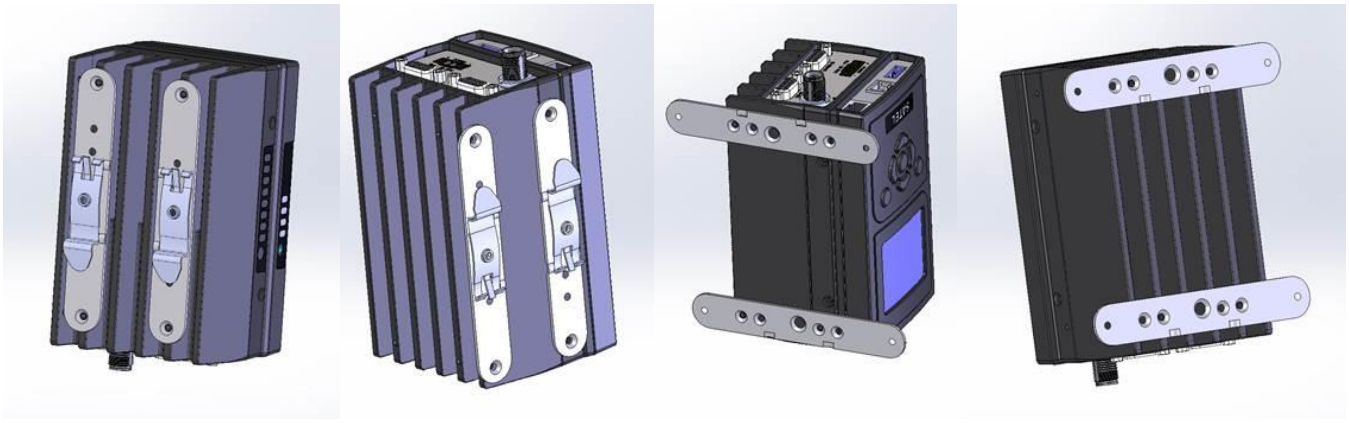
Pin nr	Pin name	Pin description
1	CD	Carrier Detected. See the radio unit user guide chapter 6.6.2
2	RD	Receive Data: data traffic from the RU to the DTE
3	TD	Transmit Data: data traffic from the DTE to the RU
4	DTR	DTR function is not in use in the RU
5	SGND	Signal Ground: the common voltage reference between the DTE and the RU
6	DSR	Data Set Ready: an indication from the RU to the DTE that the RU is powered on
7	RTS	Request To Send. See the radio unit user guide chapter 6.6.2
8	CTS	Clear To Send. See the radio unit user guide chapter 6.6.2
9	NC	Not Connected
D9 SHIELD	-	Connected to device ground

Pinning order for SATEL XPRS Optimum RS-485/422 interface

Pin nr	RS-485		RS422
	Pin name	Pin description	Pin description
1	NC	-	-
2	NC	-	-
3	B	Receive/transmit data, non-inverting	Transmit data, non-inverting
4	Y	-	Receive data, non-inverting
5	SGND	Signal ground, isolated	
6	5V_TERM	Isolated 5 V for bus termination	
7	NC	-	-
8	A	Receive/transmit data, inverting	Transmit data, inverting
9	Z	-	Receive data, inverting
D9 SHIELD	-	Connected to device ground (non isolated)	

Mounting options with installation parts

- WP0020 Installation parts for DIN rail, 2 pcs
- WP0019 Wall mount parts, 2 pcs



SATEL Oy hereby declares that SATEL XPRS Optimum IP radio router is in compliance with the essential requirements (radio unit: radio performance, electromagnetic compatibility and electrical safety / central unit: electromagnetic compatibility and electrical safety) and other relevant provisions of Directive 2014/53/EU for radio unit and Directive 1999/5/EC for central unit. Therefore the equipment is labelled with the following CE-marking.

CE

Declaration of Conformity –certificates are available from the manufacturer's web site: www.satel.com

NOTE! This is a short form user guide for SATEL XPRS Optimum IP radio router. Complete user guides for central and radio unit are available on SATEL web site.

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