

# SMART RELAY™ RTK Radio



## RTK RADIO MODULE FOR SMART6-L ANTENNAS



SMART6-L and antenna not included

### EASY INTEGRATION

NovAtel's SMART6-L™ attaches to the Relay RTK radio module to create a single unit for easy system integration. Connection to the Relay can be made using the existing/pre-installed SMART6-L interface cables.

### MULTIPLE RADIO OPTIONS

Radio options include HSPA (3G) cellular, CDMA (1xRTT/EV-DO) cellular and UHF (400 MHz licensed or 900 MHz unlicensed).

### 400 MHZ OR 900 MHZ BASE STATION

Relay can broadcast local RTK corrections from an internal 1 W 400 MHz licensed or 1 W 900 MHz unlicensed radio. Base station configuration can be managed through the integrated web-server and the Wi-Fi access point using the web browser of any compatible personal computer, tablet or Smartphone.

### CELLULAR, 400 MHZ OR 900 MHZ ROVER

With the cellular radio option, NTRIP and RTK corrections can be received over the cellular network. With the 400 MHz or 900 MHz radio options, RTK corrections are received from a compatible base station.

### FLEXIBLE MOUNTING OPTIONS

Relay can be mounted to a vehicle using integrated magnets or by screw mount.

### BENEFITS

- + Radio connectivity for SMART6-L to support RTK and NTRIP corrections
- + No need for separate radio wiring harness

### FEATURES

- + Can be used as an RTK base station with 400 MHz licensed or 900 MHz unlicensed UHF radio
- + Can be used as an RTK rover with HSPA, CDMA, 400 MHz or 900 MHz UHF radio options
- + Integrated Wi-Fi access point and web-server for easy base station setup using a Smartphone or computer
- + Integrated NTRIP Client
- + 400 MHz option compatible with Satel, PacCrest and TrimTalk base stations or rovers
- + 900 MHz option compatible with Freewave base stations or rovers

For more information about our SMART antenna products, visit [www.novatel.com/smart-antennas](http://www.novatel.com/smart-antennas)

# RELAY

## PERFORMANCE

### Radio Options

HSPA Cellular  
CDMA Cellular  
400 MHz Licensed  
900 MHz Unlicensed

## RADIO SPECIFICATIONS

### HSPA Model

Data support GSM/GPRS/EDGE/HSPA+  
Frequency bands 850, 900, 1800, 1900, AWS 1700, 2100  
Sensitivity UMTS: -108 dBm  
GSM 850/900 MHz: -107 dBm  
DCS 1800/PCS 1900 MHz: -106 dBm

### CDMA Model

Air interface IS-95A/B and CDMA2000  
Frequency bands 800/1900 MHz  
Data support 1xRTT/EV-DO  
Sensitivity CDMA 1x: -108 dBm  
EV-DO -109 dBm

### 400 MHz Model

Frequency band 403 to 473 MHz  
Transmit power 1 W  
Rx sensitivity -113 dBm @ 25 kHz  
-116 dBm @ 12.5 kHz  
Radio compatibility SATEL 3AS  
PacCrest – 4FSK  
PacCrest – GMSK  
PacCrest – FST  
TrimTalk 450s

### 900 MHz Model

Frequency band 902 to 928 MHz  
Transmit power 1 W  
Rx sensitivity -108 dBm  
Radio compatibility Freewave MM2

### Wi-Fi

Frequency band 2.4 GHz  
802.11 b/g/n

## PHYSICAL AND ELECTRICAL

**Dimensions** 290 mm L x  
275 mm W x 80 mm H

**Weight** 2.0 kg

**Signal and Power Connector** 14-pin Tyco Ampseal

**Radio Antenna Connector** TNC female jack, 50 Ω nominal

### Mounting

Integrated magnetic mount  
Screw mounting  
Optional mounting plates

### Power

Input voltage range +9 to +36 VDC

### Power Consumption

UHF 400 MHz radio 10.5 W  
UHF 900 MHz radio 8.5 W  
CDMA radio 7.5 W  
HSPA radio 5.5 W

### Status LEDs

Power  
Position valid  
Error indicator

**I/O Protection** ISO 7637

### Interface Ports (pass through from SMART6-L)

» RS-232 dedicated ports 2  
» CANBus NMEA 2000 1  
» 1PPS 1  
» Event mark input 1  
» Ground speed output 1

### Models Available

RELAYN-900  
RELAYN-400  
RELAYN-CDMA  
RELAYN-HSPA

## OPTIONAL ACCESSORIES

Mounting plate  
Pole mounting plate  
Interface cable  
NMO to TNC adapter cable

## ENVIRONMENTAL

### Temperature

#### Base

» Operating -30°C to +60°C  
» Storage -40°C to +80°C

#### Rover

» Operating -30°C to +70°C  
» Storage -40°C to +80°C

**Humidity** MIL-STD-810G, 507.5

**UV Protection** MIL-STD-810G, 505.5

**Sand and Dust** MIL-STD-810G, 510.5

**Salt Fog** MIL-STD-810G, 509.5

**Acidic Atmosphere** MIL-STD-810G, 518.1

**Immersion** MIL-STD-810G, 512.5

**Vibration** MIL-STD-810G, 514.6

**Shock** MIL-STD-810G, 516.6

## COMPLIANCE

E-mark, FCC, IC, CE marking

### Carrier Approvals

RELAYN-CDMA - Verizon  
RELAYN-HSPA - PTCRB/GCF



For the most recent details of this product:  
[www.novatel.com/products/smart-antennas/](http://www.novatel.com/products/smart-antennas/)

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**Version 3** Specifications subject to change without notice.

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D19828 November 2015

