

# Challenge Series Satellite High Speed DVB-S2 IP Demodulator SDD3-IP



## CCM, VCM, ACM Functionality

The satellite high speed DVB-S2 IP demodulator SDD3-IP provides a platform for receiving IP/Ethernet data over DVB-S2 satellite connections. The device is the corresponding demodulator unit to the DVB-S2 IP modem SK-IP and supports Generic Stream Encapsulation for low encapsulation overhead. In combination with the integrated OptiACM controller the demodulator provides adaptive or variable FEC and modulation setting for point-to-point or point-to-multipoint applications.

The demodulator accepts an L-Band signal in the range from 950 to 2150 MHz on two inputs or alternatively an IF signal in the range from 50 to 180 MHz on a single input. On L-Band devices LNBS can be powered directly over the inputs.

QPSK, 8PSK, 16APSK, 32APSK modulation is supported, which allows big flexibility in the satellite link design.

## Operating and control – easy integration into your system

The demodulator can be operated via the push buttons on the front panel using self-explanatory display menus or via remote control (RS232, RS422/485, TCP/IP (over Ethernet)). For the remote control either addressable packet based commands, a HTTP web browser interface or SNMP can be used. Detailed monitoring of system parameters is possible.

## Key features

- DVB-S2 demodulator for IP/Ethernet data reception
- DVB-S2 compliant (EN 302 307)
- QPSK / 8PSK / 16APSK / 32APSK modulation
- Normal and short FEC frames, pilots on or off
- Physical layer framing (PL descrambling with codes 0..262141) according to DVB-S2 standard
- Symbol rates from 60 ksp/s to 60 Msp/s
- OptiACM system (programmable or automatic) for optimized bandwidth usage
- Gigabit Ethernet data interface
- Generic Stream Encapsulation (GSE)
- Operates as network layer 2 or layer 3 device
- Remote control through RS232, RS422/485 (2-wire or 4-wire) interfaces, TCP/IP over Ethernet, Web browser interface, SNMP (MIBs are provided)
- Summary alarm output (dual change over switch contacts)
- Operating temperature range 0 °C to 50 °C (32 °F to 122 °F)
- CE compliant
- **3 years warranty**

# Challenge Series

## Satellite High Speed DVB-S2 IP Demodulator

### SDD3-IP

Demodulator Parameters:	SDD3-V-50-IP / SDD3-V-75-IP	SDD3-L-75-IP
<b>IF-Input Frequency:</b>	50...180 MHz	950...2150 MHz
<b>IF-Input Characteristics:</b>	Impedance: 50 $\Omega$ or 75 $\Omega$ Return Loss: >18 dB Input Power: -60 dBm ... -15 dBm IF-Connector: BNC female LNB DC-Feed: n/a	Impedance: 75 $\Omega$ Return Loss: >13 dB Input Power: -70 dBm ... -20 dBm IF-Connector: 2x F female, input selectable LNB DC-Feed: 13.5V / 450mA or 18V / 450mA switchable, 22 kHz tone on/off, short circuit protected
<b>Symbol Rate:</b>	Max. Range: 60 ksp/s - 60 Msp/s (QPSK, 8PSK) 60 ksp/s - 45 Msp/s (16APSK) 60 ksp/s - 40 Msp/s (32APSK) Step size: 1 sp/s	
<b>Demodulation / Decoding DVB-S2:</b>	Outer BCH Code: FEC-Frames Inner LDPC Code: QPSK 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK 3/4, 4/5, 5/6, 8/9, 9/10 Demodulator auto detection: Modulation- and FEC-type, pilots on/off are automatically detected Physical Layer Scrambling: N = 0...262141 all according EN 302307	nldpc = 64800 (normal FEC Frame) nldpc = 16200 (short FEC Frame)
<b>OptiACM:</b>	CCM / VCM / ACM functionality for point-to-point and point-to-multipoint links	
<b>Signal Spectrum Mask:</b>	$\alpha = 0.35, 0.25, 0.20$ according EN 302307	
<b>Data Interface:</b>	Ethernet (1xRJ-45, 10/100/1000 Mbit/s auto sensing)	
<b>Data Rate:</b>	up to 133 Mbit/s	
<b>Network Operation:</b>	Layer 2 (Ethernet frame reception) or Layer 3 (IP packet reception)	
<b>Data Encapsulation:</b>	Generic Stream Encapsulation (GSE) according TS 102606	
<b>Monitoring and Control Interface:</b>	Protocol: SNMP Connection: UDP over Ethernet (10 or 100 Mbit/s, auto sensing), connector RJ-45 Protocol: HTTP (web browser interface) Connection: TCP/IP over Ethernet (10 or 100 Mbit/s, auto sensing), connector RJ-45 Protocol: Multipoint Connection: RS232 or RS422/RS485 (configurable), connector DSUB09 female or TCP/IP over Ethernet (10 or 100 Mbit/s, auto sensing), connector RJ-45	
<b>Alarm Interface: Mute Input:</b>	Alarm: two potential free contacts (DPDT), Mute Input: TTL logic input with internal pull up Connector DSUB09	
<b>Temperature Range:</b>	0°C to 50°C operating -30°C to 80°C storage	
<b>Relative Humidity:</b>	< 95% non condensing	
<b>User Interface:</b>	LCD-Display 2 x 40 characters, 4 cursor keys, 2 function keys	
<b>Power Input:</b>	85...264 V AC, 40...70 Hz, appr. 25 W / 35 VA	
<b>Mains Fuse :</b>	2 x 2 A time-lag fuse	
<b>Dimension and Weight:</b>	483 x 44 x 270 mm <sup>3</sup> , 1 RU (19") appr. 4.0 kg	

Specifications are subject to change

#### Order Information:

**SDD3-[Input Band]-[Input Imp]-IP**

Examples:

- SDD3-L-75-IP
- SDD3-V-50-IP



Trade Mark of the DVB Digital Video  
Broadcasting Project