

DVB-S/S2/DSNG/S2X Modulator

MOD-S2X-L-72-E

Temix MOD-SS2-L-30-C is a state-of-the-art satellite modulator designed for applications over satellite in full compliance with the DVB-S, DVB-DSNG, DVB-S2 and DVB-S2X standards.



One single hardware platform covers the full L-Band range (950/2150 MHz) and IF Band range (50/180 MHz) from 0.05 to 72 MBaud.

Features:

- **DVB-S/DSNG/S2/S2X standards**
- **L-Band and IF Band outputs**
- **Symbol rate from 0.05 to 72 Mbauds (1 baud steps)**
- **Roll-off : (5 to 35%, 1% steps) for DVB-S/DSNG/S2/S2X**
- **ASI/IP inputs**

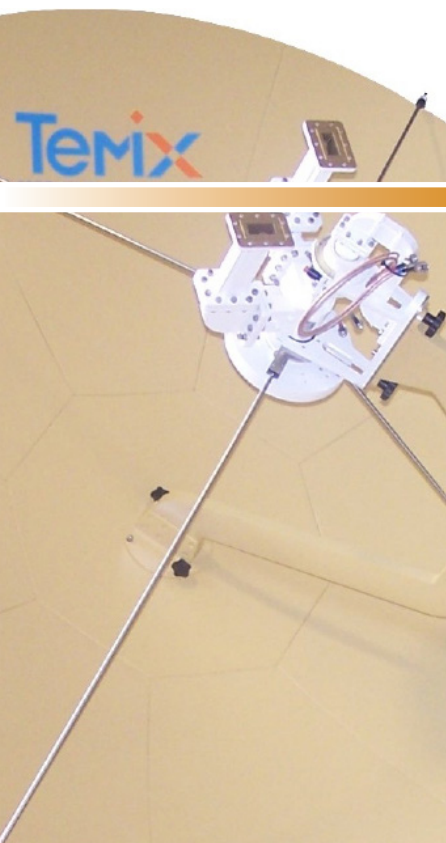
*The Information included in this data sheet may be changed without advise. rev_01/18

Standards	<ul style="list-style-type: none"> o DVB-S: EN 300 421 o DVB-DSNG: EN 301 210 o DVB-S2: EN 302 307 part I o DVB-S2X: EN 302 307 part II o Carrier ID: ETSI 103 129 o MPEG-TS: ISO/IEC 13818-1 o DVB MPEG-TS over ASI: EN50083-9, ETSI TR 101 891 o DVB MPEG-TS over IP: ETSI TR 102 034 o MPEG-2 PSI Tables (PAT and PMT): EN 300 468
Inputs	<ul style="list-style-type: none"> o MPEG-TS (188/204 bytes) over ASI (x2) - BNC connectors, 75 Ω o MPEG-TS (RTP/UDP - SMPTE-2022) over 2 Ethernet ports RJ45 o Multistream up to 4 ISI selected between: <ul style="list-style-type: none"> • 2 MPTS over ASI, • 4 MPTS over Ethernet. o Flexible bitrate adaptation: <ul style="list-style-type: none"> • PCR adaptation, • Padding insertion, • Dummy PL frames. o BISS Encryption (single/multiple programs): mode 0,1, E
RF Outputs	<ul style="list-style-type: none"> o L-Band output: <ul style="list-style-type: none"> • Connector N 50 Ω • 950 MHz to 2150 MHz, 1 Hz steps • Power level: -35dBm to +7dBm, 0.1 dB steps o IF-Band: <ul style="list-style-type: none"> • Connector BNC 75 Ω • 50 MHz to 180 MHz, 1 Hz steps • Power level: -35dBm to +5dBm, 0.1 dB steps o SNR > 40 dB @ 0 dBm -16 APSK - 30 Mbaud o Shoulders rejection < -50dB @ 0dBm & f/fN=1.5 for roll off 20% o Spurious: <ul style="list-style-type: none"> • < -65 dBc @ 0 dBm for 50 to 180 or 950 to 2150 MHz • -60 dBc outside the useful band o Switchable 10MHz insertion on L-Band RF output: <ul style="list-style-type: none"> • @1Hz < -85 dBc/Hz • @10Hz < -115 dBc/Hz • @100Hz < -140 dBc/Hz • @1kHz < -145 dBc/Hz • @10kHz < -150 dBc/Hz
Clock & Synchronization	<ul style="list-style-type: none"> o Internal 10 MHz Reference Frequency <ul style="list-style-type: none"> • High stability: $\pm 5 \cdot 10^{-9}$ over 0 to 70° C • Ageing: $\pm 5 \cdot 10^{-10}$/day and $\pm 7.5 \cdot 10^{-8}$/year o External 10 MHz input for external clock synchronization

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DVB-S/S2/DSNG/S2X Modulator

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Modulation	<ul style="list-style-type: none"> o DVB-S / DSNG: <ul style="list-style-type: none"> • Outer/Inner FEC: Reed Solomon/Viterbi • QPSK: 1/2, 2/3, 3/4, 5/6, 7/8 • 8PSK: 2/3, 5/6, 8/9 • 16QAM: 3/4, 7/8 o DVB-S2: <ul style="list-style-type: none"> • Outer/Inner FEC: BCH/LDPC • 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 • PL Scrambling codes [0, 264143] • Operating modes: <ul style="list-style-type: none"> »» CCM: Constant Coding and Modulation, »» VCM: Variable Coding and Modulation, »» ACM: Adaptive Coding and Modulation (seamless). • Frame length: Short & Normal frames • Pilots insertion • Variable symbol rate from 0.05 to 72 Mbaud (1 Baud steps) o DVB-S2X Broadcast & DSNG profiles <ul style="list-style-type: none"> • Same features as defined for DVB-S2 • All new MODCODs for QPSK/8PSK/16APSK/32APSK • 5 MODCODs for new 64APSK constellation
DualCast	o Opportunistic Push Data Service Insertion.
Enhanced Satellite Precorrection (E.S.P)	<ul style="list-style-type: none"> o Static Non Linear precorrection o Static Linear precorrection
Control & Monitoring	<ul style="list-style-type: none"> o RS232 control port with SCPI protocol o SNMP (V2C) over Ethernet o HTTP over Ethernet (web browser) o Front panel keyboard & display o Alarm relays: <ul style="list-style-type: none"> • connector 9-pin sub-D (F) • Dry contact management for 1+1 redundancy
Physical	<ul style="list-style-type: none"> o Power supply: 90 to 240 VAC - 30W o Dimensions: 450 x 350 x 44 (LxIxH) o Weight: 4 kg - Temperature: 0°C to 50°C



Ordering:

Basic Configuration:
DVB-S/DSNG/S2 Modulator
 - IF and RF output

Options:
OPT.1: DVB-S2X standard
 - Broadcast & DSNG profiles
 - (Software option)

OPT.2: BISS-0/1/E Encryption license
 - (Software option)

OPT.3: Enhanced Satellite Precorrection Linear & Non-linear
 - (Software option)

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