

## INGRON9010SX DVB-S2X Modulator



### Features

- Standard of DVB-S2X(EN302 307-2), DVB-S2(EN302 307-1) and DVB-S(EN300 421)
- Input with 4\*ASI, 1\*IP and output with 1\*Tuner modulation by 16APSK / 32APSK / 8PSK-L / 16APSK-L / 32APSK-L / QPSK / 8PSK
- RF output frequency in range 950~2150MHz(L-band), or 50~960MHz(IF) optional
- BISS scrambling(BISS-0, BISS-1, BISS-E) mode supported
- 1\* 10MHz reference clock input and loop out optional
- 24V/4A coupling power out optional
- SFN TS(with MIP or IIP) transmission optional for RF version
- RF CID setting available
- TS over IP input available, UDP protocol, 10/100M
- Easy operation and upgrading by keyboard or LCD
- Management by SNMP or Web NMS

### Specifications

#### Input

TS Input	Number	4*ASI, hot backup supported
	Interface Standard	EN 50083-9 ASI
	Mode:	byte or burst
	MPEG Frame	188/204 bytes
	Connector	BNC interface, 75Ω
IP Input	Number	1*TS over IP, UDP protocol
	Connector Type	RJ45, 10/100M
10MHz Input	Number	1* 10MHz reference clock

#### Modulation

DVB-S Mode	Standard	EN300 421
	Constellation	QPSK
	FEC Coding	RS(outer) + Convolution(inner)
	FEC Coding Rate	1/2, 2/3, 3/4, 5/6, 7/8
	Roll-off Factor	0.2, 0.25, 0.35
	Symbol Rate	0.5 ~ 45 Msps
	BISS Scrambling Mode	BISS-0, BISS-1, BISS-E
DVB-S2 Mode	Standard	EN302 307-1
	Constellation	QPSK, 8PSK, 16APSK, 32APSK
	FEC Coding	BCH(outer) + LDPC(inner)
	FEC Coding Rate	(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
	Roll-off Factor	0.2, 0.25, 0.35
	Symbol Rate	(32APSK) 0.5~40 Msps; (16APSK, 8PSK, QPSK) 0.5~45 Msps
	BISS Scrambling Mode	BISS-0, BISS-1, BISS-E

DVB-S2X Mode	Standard	EN302 307-2
	Constellation	QPSK, 8PSK, 16APSK, 32APSK, 8PSK-L, 16APSK-L, 32APSK-L
	FEC Coding	BCH(outer) + LDPC(inner)
	FEC Coding Rate	(QPSK) 13/45, 9/20, 11/20; (8PSK) 23/36, 25/36, 13/18; (16APSK) 26/45, 3/5, 28/45, 23/36, 25/36, 13/18, 7/9, 77/90; (32APSK) 32/45, 11/15, 7/9; (8PSK-L) 5/9, 26/45; (16APSK-L) 5/9, 8/15, 1/2, 3/5, 2/3; (32APSK-L) 2/3
	Roll-off Factor	0.05, 0.10, 0.15
	Symbol Rate	(32APSK, 32APSK-L) 0.5~40 Msps; (16APSK, 8PSK, QPSK, 16APSK-L, 8PSK-L) 0.5~45 Msps
	BISS Scrambling Mode	BISS-0, BISS-1, BISS-E

**Output**

Output	Number	1*RF
	Frequency Range	(L-band) 950 ~ 2150 MHz, successionaly adjustable; (IF) 50 ~ 960 MHz(optional)
	Out Attenuation	-41.5 ~ -10 dB, by 0.5 dB stepping; -28.5 ~ +3 dB, by 0.5 dB stepping(IF)
	Frequency Stability	0.1 PPM
	MER	≥36 dB (RF); ≥40 dB (IF)
	Connector Type	N interface, 50Ω
10MHz Out	Number	1*10MHz reference clock

**More Functions**

24V/4A power coupling
SFN TS(with MIP or IIP) transmission
16APSK, 32APSK, 8PSK-L, 16APSK-L, 32APSK-L, QPSK, 8PSK Constellations

**Management**

Network Control	by SNMP/Web NMS
Local Control	LCD and keyboard on front panel
Upgrading	by Ethernet software
Language	English

**General**

Voltage	100~240V AC, 50/60Hz
Consumption	25 W
Environment	0~45°C (Operation), -20~80°C (Storage)
Dimension (W*D*H)	482*410*44 mm
Gross Weight	4.5 KGS

**Introductions**

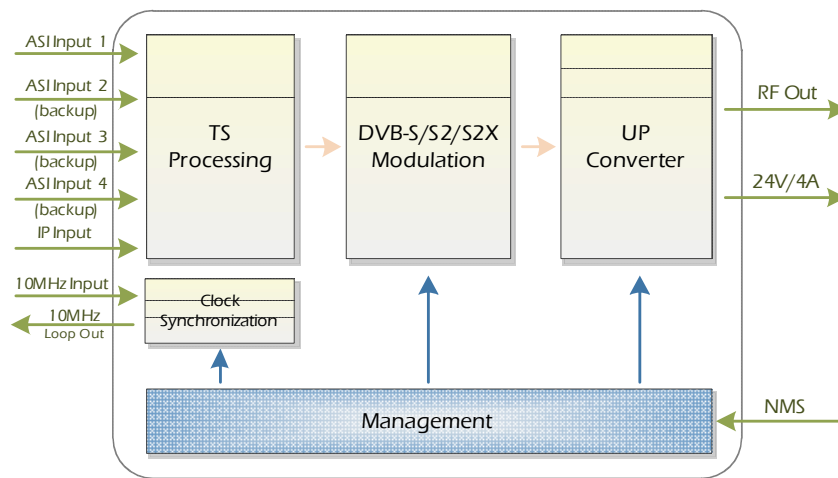
INGRON9010SX DVB-S2X Modulator is designed based on the standard of EN302 307-2, simultaneously compatible with DVB-S2(EN302 307-1) & DVB-S(EN300 421, QPSK). It is able to process signals from ASI or IP inputs and modulate them by 16APSK, 32APSK, 8PSK-L, 16APSK-L, 32APSK-L, QPSK, and 8PSK standards. Output frequency range in 950~2150MHz(RF) or 50~960MHz(IF) is optional according to physical applications. The device offers an external 10MHz reference clock in and a loop

out interface. 24V/4A power coupling output can also be configured if needed. BISS scrambling(BISS-0, BISS-1, BISS-E) is supported with INGRON9010SX and SFN TS(with MIP/IIP) packet transmission is optional, too. The device is able to be applied to FM microwave system, MMDS, digital TV broadcasting, news gathering, interactive services, broadband satellite systems, and so on. INGRON9010SX well satisfies the growing adoptions of digital satellite TV systems.

**Rear Panel**



**Diagram**



**Options**

	<b>INGRON9010SX -10</b>	<b>INGRON9010SX -20</b>
<b>Output Range</b>	950~2150MHz	50~960MHz
<b>24V/4A Coupling Power</b>	YES	YES
<b>10MHz Clock In &amp; Out</b>	YES	YES
<b>SFN TS (with MIP or IIP) Transmission</b>	YES	/