

INGRON Digital TV Head-End Device List

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Series Category	Item Name	Item No.	Input Reference	Output Reference	Descriptions
Integrated Head-end Processor	Multi-Function Integrated Head-end Processor	INGRON96MIP	4*ASI+2*IP+2*IP(for backup)(1000M)	4*ASI+2*IP+2*IP(for backup)(1000M)	TS multiplexing/re-multiplexing; PID remapping, PCR correction, automatic PSI/ SI table generation
			5*ASI	5*ASI	TS multiplexing/re-multiplexing; PID remapping, PCR correction, automatic PSI/ SI table generation
			4*CVBS(4*stereo)	1*ASI+2*IP(1000M)	SD encoding functions; MPEG-2 SD video compression; MPEG-1 Layer 2, AC3 audio compression
			2*HDMI	1*ASI+2*IP(1000M)	SD/HD encoding/transcoding functions; MPEG-2/H.264 SD video compression; MPEG-1 Layer 2, AAC, AC3 audio compression
			2*HD-SDI	1*ASI+IP(1000M); or 2*HD-SDI/SD-SDI or 4*SD-SDI	SDI encoding/transcoding functions; MPEG-2/H.264 HD video compression; MPEG-1 Layer 2 audio compression, AAC&AC3 for option; Closed Caption(CC) supported
			2*IP	1*ASI+2*IP(1000M)	Transcoding functions; MPEG-2, H.264, AVS/AVS+ HD/SD to 2* H.264 HD/SD video transcoding; MPEG-1 Layer II, LC-AAC , HE-AAC, AC3, DRA to MPEG-1 Layer II, LC-AAC , HE-AAC audio transcoding
			2*ASI	2*HD-SDI or 2*SD-SDI	SDI signal decoding function; MPEG-2/H.264 SD video compression; MPEG-1 Layer 2, AAC, AC3 audio compression
			2*IP(100/1000M)	2*RF(12*non-adjacent DVB-C carriers)	Scrambling and modulation functions; Max. support 4*simulcrypt CA
			2*RF(DVB-S/S2) + 2*CI Slots	1*ASI+2*IP(UDP, 1000M)	Descrambling function; Max. 256 PID remapping input
			4*RF(DVB-S/S2, FTA)	1*ASI+2*IP(1000M)	Descrambling function; Max. 256 PID remapping input; BISS descrambling available
SD Encoder	Eight-Channel SD Encoder	INGRON2108ES	8*CVBS+1*ASI	1*ASI+1*ASI(backup)+IP (1*MPTS/8*SPTS, 100M, UDP)	MPEG-2 SD video compression; External ASI input for multiplexing
		INGRON2308ES	8*CVBS+1*ASI 8*SD-SDI+1*ASI	1*ASI+1*ASI(backup)+IP (1*MPTS/8*SPTS, 100M, UDP/RTP)	Audio encoding with LC-AAC, HE-AAC(v2); MPEG-2/H.264 compression
	Four-Channel SD Encoder	INGRON2104ES	4*CVBS+1*ASI	1*ASI+1*ASI(backup)+IP (1*MPTS/4*SPTS, 100M, UDP)	MPEG-2 SD video compression; External ASI input for multiplexing
		INGRON2304ES	4*CVBS+1*ASI	1*ASI+1*ASI(backup)+IP (1*MPTS/4*SPTS, 100M, UDP/RTP)	Audio encoding with LC-AAC, HE-AAC(v2); MPEG-2/H.264 video compression
			4*SD-SDI+1*ASI 2*CVBS+2*SD-SDI+1*ASI		
	Single-Channel SD Encoder	INGRON2101ES	1*CVBS+1*SDI +1*L/R+1*XLR +1*AES/EBU	1*ASI+1*ASI(backup)+IP (100M, UDP)	MPEG-2 compression; Resolutions in D1, 2/3D1, 3/4D1, HD1, and SIF
		INGRON2301ES	1*CVBS+1*SD-SDI+ 2* L/R +2*XLR +1*ASI	1*ASI+1*ASI(backup)+IP (1*MPTS/1*SPTS, 100M, UDP)	Closed Caption (EAI608/708); Audio encoding in LC-AAC, HE-AAC(v2); 2*stereo or 4*mono; Capable of Multiplexing

HD Encoder	24-Channel MPEG-4 AVC (H.264) HD Encoder	INGRON2224EH	24*HDMI	1*ASI+IP(6*MPTS, UDP, RTSP; or 512*SPTS, UDP, RTP/RTSP, GigE, 1000M)	H.264 compression; AAC audio encoding optional; Up to 1080P Full HD; Capable of Multiplexing; Max. output with 6*MPTS or 512*SPTS IP
	Eight-Channel MPEG-4 AVC (H.264) HD Encoder	INGRON2208EH	8*HDMI+1*ASI	1*ASI+1*ASI(backup)+IP (1*MPTS/8*SPTS, GigE, 1000M , UDP/RTP)	H.264 compression; AAC audio encoding optional; Up to 1080P Full HD; Capable of Multiplexing
			8*HD-SDI+1*ASI		
	Four-Channel HD Encoder	INGRON2204EH	4*SDI+1*ASI	1*ASI+1*ASI(backup)+IP (1*MPTS/4*SPTS, GigE, 1000M , UDP/RTP)	H.264 compression; AAC audio encoding optional; Up to 1080P Full HD; Capable of Multiplexing
			4*HDMI+1*ASI		
		INGRON2304EH	4*SDI	1*ASI+1*ASI(backup)+IP (1*MPTS/4*SPTS, 100M, UDP/RTP)	Up to 1080P(H.264)/1080i(MPEG-2); ASI and TSolP(100M, UDP/RTP) out; Closed Caption(EAI608/708); Audio encoding in LC-AAC, HE-AAC(v2), AC3 pass through
			4*HDMI		
	Single-Channel HD Encoder	INGRON2201EH	1*HDMI+1*CVBS+1*HD/SD-SDI+1*YPbPr +1*S-Video+1*L/R +1*XLR+1*AES/EBU	1*ASI+1*ASI(backup)+IP (100M, UDP/RTP)	H.264 compression; Audio encoder AAC optional; Up to 1080P Full HD
INGRON2301EH		1*HDMI+1*HD-SDI /SD-SDI+1*CVBS + 1*YPbPr + 1*ASI + 1*AES+4*RCA+4*XLR	1*ASI+1*ASI(backup)+IP (100M, UDP/RTP)	Closed Caption(EAI608/708); Audio encoding in LC-AAC, HE-AAC, AC3(2.0, 5.1 available); AC3 pass through(for SDI input); 4*stereo or 8*mono or 1*AC3	
Single-Channel Smart HD Encoder	INGRON2501EH	1*HDMI/1*SDI	2*IP(GigE, 1000M , HTTP, UDP, RTP, RTSP, RTMP, ONVIF protocols)	H.264 video compression; MPEG-1 Layer II, AAC, MP3 audio compression; Up to 1080P Full HD; Resolution re-settable; Dual TS over IP out	
Single-Channel Smart HD Encoder	INGRON2401EH	1*HDMI+1*CVBS+1*USB (for recording, saving and playback)	1*IP(GigE, 1000M , HTTP, UDP<multicast>, RTP, RTSP, & HLS protocols)	H.264 video compression; MPEG-1 Layer II, MPEG-2 AAC, MPEG-4 AAC audio compression; Up to 1080P Full HD; TS over IP out, UDP(multicast), RTP, HTTP, RTSP, &HLS protocol	
MPEG-TS Processor	Dual-Channel Out Multiplexer	INGRON4002TS	6*Tuner(DVB-S/S2, DVB-C, DVB-T/T2 or ISDB-T)+2*ASI 8*ASI	2*ASI+2*ASI(backup); one DATA port for two separate Gigabit IP outputs (UDP)	PSI/SI information analyzing and editing; NIT, LCN insertion
	Multiplexer-Scrambler	INGRON4502TS	6*Tuner(DVB-S/S2, DVB-C, DVB-T/T2, ATSC or ISDB-T) +2*ASI 8*ASI	2*ASI+2*ASI(backup); one DATA port for two separate Gigabit IP outputs (UDP)	Up to 4 different simulcrypt CAS; PSI/SI information analyzing and editing; NIT, LCN insertion
			Stand-Alone Scrambler		
	Four-Channel Scrambling OAM Modulator	INGRON4504TS	4*ASI	4*OAM RF+1*IP(4*MPTS, GigE, 1000M , UDP/RTP)	Capability of multiplexing and scrambling; Constellation standard of DVB-C (EN300 429) & ITU-T J.83A/J.83B/J.83C
		INGRON4508TS	8*DVB-S2 Tuner		
INGRON4516TS		16*ASI			
Modulator Series	Single-Channel OAM Modulator	INGRON9000MC	1*ASI	1*OAM RF	Constellation standard: DVB-C (EN300 429)& ITU-T J.83A/J.83B/J.83C
		INGRON9400MC	1*Tuner(DVB-C, DVB-S/S2, or DVB-T) +1*ASI	1*OAM RF	Capable of Multiplexing; Constellation standard: DVB-C(EN300 429) and ITU-T J.83A/J.83B/J.83C

Modulator Series	Four-Channel ASI/Tuner to QAM Modulator	INGRON9404MC	8*Tuner(DVB-C, or DVB-S/S2)+6*ASI 4*Tuner(DVB-C, or DVB-S/S2)+6*ASI+2*IP(SPTS/MPTS, 1000M, UDP) 8*Tuner(DVB-C, or DVB-S/S2)+2*ASI+2*IP(SPTS/MPTS, 1000M, UDP)	4*QAM RF(adjacent) +IP(4*MPTS, UDP, 1000M)	Constellation standard: DVB-C(EN300 429) and ITU-T J.83A/J.83B/J.83C; Multiplexing and scrambling functions integrated; Max. support 4 simulcrypt CA; IP input and output optional
	16-Channel IP QAM Modulator	INGRON9420MC	1*IP(UDP/RTP/RTSP, IGMP V2V3, 1000M)	16*RF(non-adjacent DVB-C carriers) +16*IP(max. 16*TS)	Multiplexing and scrambling functions integrated; Output with 16 multiplexed or scrambled TS over IP, UDP/RTP/RTSP; Up to 16 non-adjacent QAM carriers modulation
	DVB-S QPSK Modulator	INGRON9010MS	1*ASI+1*ASI (Loop Out)	1*RF(950~2150MHz or 450~950MHz)	Constellation: DVB-S(ETS300-421) QPSK
	DVB-S2X Modulator (NEW)	INGRON9010SX	4*ASI+1*IP(UDP)+1*GPS 10MHz Clock	1*RF(L-band, 950~2150MHz, successionaly adjustable; or IF, 50~960MHz) +1*GPS 10MHz Clock Loop Out	Modulation in 16APSK / 32APSK / 8PSK-L/16APSK-L/32APSK-L/QPSK/ 8PSK; BISS scrambling function; GPS 10MHz input+ loop out; IP(100M, UDP) input; 24V/4A power through RF output; SFN TS with MIP or IIP transmission (Optional)
	DVB-S2 Modulator	INGRON9010MSS	4*ASI+1*IP(UDP)+1*GPS 10MHz Clock	1*RF(L-band, 950~2150MHz, successionaly adjustable; or IF, 50~200MHz) +1*GPS 10MHz Clock Loop Out	QPSK&8PSK Modulation; BISS scrambling function; GPS 10MHz input+ loop out; IP(100M, UDP) input; 24V/4A power through RF output; SFN TS with MIP or IIP transmission (Optional)
	DVB-T Modulator	INGRON9020MT	4*ASI+1*GPS 10MHz+1PPS +1*RF (for DPD)	1*RF(30~960MHz, successionaly adjustable, in 1Hz stepping)+1*PPS (Loop)+1*10MHz (Loop)	Digital Pre-Distortion(DPD), hierarchical and non-hierarchical optional
	ATSC-T Modulator	INGRON9030MA	2*ASI+2*SMPTE 310M+1*RF+1*GPS 10MHz Clock	1*RF(40~960MHz, successionaly adjustable, in 1Hz stepping)+1*GPS 10MHz Clock(Loop Out)	Digital Pre-Distortion(DPD), hierarchical and non-hierarchical optional
	ISDB-T/Tb Modulator	INGRON9040MI	4*ASI+1*GPS 10MHz +1PPS +1*RF (for DPD)	1*RF(30~960MHz, successionaly adjustable, in 1Hz stepping)	ARIB STD-B31; Digital Pre-Distortion(DPD), hierarchical and non-hierarchical optional
	IP to ISDB-T Modulator	INGRON9041MI	4*IP(SPTS/MPTS, UDP, 1000M))	4*IP(in mirror of input 4*IP, UDP)+1*RF(2* adjacent carriers)	PID mapping; IP output in unicast/multicast mode; RF out in two adjacent frequencies
	DVB-T2 Modulator	INGRON9220MT	1*ASI(+3*ASI for backup)+1*GPS 10MHz+1PPS +1*RF (for DPD)	1*RF(30~999MHz, successionaly adjustable, in 1Hz stepping)+1*PPS (Loop)+1*10MHz (Loop)	Digital Pre-Distortion(DPD), hierarchical and non-hierarchical optional; Single PLP supported, multi-PLP optional; T2-MI over IP input; Applicable to MFN & SFN
IP to DVB-T Modulator	INGRON9021MT	2*IP	1*RF(2*adjacent DVB-T carriers, 30~1000 MHz, successionaly adjustable, in 1Hz stepping)	Input with 2*IP(MPTS or SPTS), UDP protocol, 100M; RF output in two adjacent carriers	
Professional IRD	HD Professional IRD	INGRON1301IH	1*Tuner(DVB-C, DVB-S/S2, DVB-T/T2, ATSC, ISDB-T) +1*IP +1*ASI+2*CI Slots	1*YPbPr(RCA)+1*SDI(BNC)+1*HDMI+1*CVBS(BNC)+1*L/R(RCA)+1*XLR+1*ASI+1*IP(1*MPTS & 8/32 *SPTS, 100M, UDP) +1*Tuner(Loop)	MPEG2/MPEG-4 AVC(H.264) SD/HD video decoding; CI+BISS decryption; VBI Teletext, subtitle; Closed Caption; 16APSK/32APSK constellation optional for DVB-S/S2 RF in

Professional IRD	HD Professional IRD	INGRON1321IH	1*Tuner(DVB-C, DVB-S/S2, DVB-T/T2, ATSC) +1*IP +1*ASI+2*CI Slots	1*YPbPr(RCA)+1*HDMI+1*CVBS(BNC)+1*L/R(RCA) +1*XLR+1*ASI+1*IP(1*MPTS & 8*SPTS, 100M, UDP) + 1*Tuner(Loop)	MPEG2/MPEG-4 AVC(H.264) SD/HD video decoding; CI+BISS decryption; Low latency
		INGRON1351IH	1*Tuner(DVB-S/S2) +CI Slots	1*YPbPr(RCA)+1*HDMI+1*CVBS(BNC)+1*L/R(RCA) +1*ASI+1*IP(1*MPTS, 100M, UDP)+1*Tuner (Loop)	MPEG2/MPEG-4 AVC(H.264) SD/HD video decoding; CI+BISS decryption; MPEG-1 Layer II, AAC, AC3 audio decoding
		INGRON1302IH	2*Tuner(DVB-C, DVB-T/T2, or DVB-S/S2)+2*CI Slots+1*ASI+1*IP	1*YPbPr(BNC)+1*SDI(BNC) +1*HDMI+1*CVBS(BNC) + 2*Stereo/4*mono +2*ASI+1*IP(1*MPTS/8*SPTS, 100M, UDP) + 2*Tuner (Loop)	MPEG2/MPEG-4 AVC(H.264) SD/HD video decoding; CI+BISS decryption; VBI Teletext, subtitle, Closed Caption; Dolby Digital/Dolby Digital Plus Decoding and pass-through (for HDMI/SDI out)
		INGRON1311IH	1*Tuner(DVB-C, DVB-T, or DVB-S/S2) +2*CI / 1*ASI+2*CI	1*HDMI+1*YPbPr(RCA)+1*CVBS(RCA+ BNC)+1*XLR + 2*L/R (RCA) + 1*ASI +1* Tuner(Loop)	MPEG2/MPEG-4 AVC(H.264) SD/HD video decoding; CI+BISS decryption; VBI Teletext, EBU/DVB subtitle; Closed Caption; PMT auto detection and updating
		INGRON1308IH (8-channel)	8*Tuner(DVB-C, DVB-S/S2, or DVB-T/T2) +8*CI slot+ 1*ASI (+1*IP, UDP /RTP, 1000M)	8*ASI(8*Tuner, 8*CI input in mirror) + 1*ASI(re-multiplexed with 1*ASI input)+1*IP(UDP/RTP, IGMPv3, ARP, 1000M)	TSolP input and output(1*MPTS) duplex mode, or TSolP out(9*SPTS) simplex mode; BISS-1 and BISS-E decryption modes; SFN MIP unvarnished transmission; TS de-multiplexing, & re-multiplexing with external stream; PID management re-mux, filtering and remapping; PSI/SI re-generation, NIT&SDT edit, LCN edit & re-generation
	SD Professional IRD	INGRON1501IS	1*Tuner(DVB-C, DVB-S/S2, or DVB-T) +1*IP+1*ASI	1*YPbPr(RCA)+1*SDI(BNC) +1*CVBS(BNC)+1*L/R (RCA)+1*XLR+1*ASI+1*IP (100M, UDP)	MPEG2 SD decoding; CI+BISS decryption; VBI Teletext, subtitle; Closed Caption
		INGRON1502IS (2-channel)	2*Tuner(DVB-C, DVB-S/S2, or DVB-T/T2) +1*IP +1*ASI+2*CI Slots	2*CVBS(RCA)+2*L/R+2*Tuner(Loop Out)+1*ASI +1*ASI(backup) +1*IP (100M, UDP/RTP/RTSP)	MPEG-2 SD video decoding, H.264 decoding optional; 2*CI slots; BISS descrambling supported
		INGRON1504IS (4-channel)	4*Tuner(DVB-S)+4*Tuner Loop+4*ASI	4*CVBS+4*L/R(stereo)+4*ASI	MPEG-2 SD video decoding; Highly integrated for four-channel RF in simultaneously within one unit
		INGRON1514IS (2*Tuner to 4*CVBS)	2*Tuner(DVB-C, DVB-S/S2, or DVB-T/T2) +1*IP +1*ASI+2*CI Slots	4*CVBS(RCA)+4*L/R+2*Tuner(Loop Out)+1*ASI +1*ASI(backup) +1*IP (100M, UDP/RTP/RTSP)	MPEG-2 / H.264 video decoding; MPEG-1 Layer II audio decoding; 2*CI slots; BISS descrambling supported
		INGRON1521IS	1*Tuner(DVB-S/S2)+1*CI slot	2*CVBS+1*IP+1*ASI	MPEG-2 SD video decoding; MPEG-1 Layer II audio decoding; 1*CI slot; BISS descrambling supported
	Four-Channel Professional Receiver	INGRON1104IS	4*Tuner(DVB-C, DVB-S/S2, or DVB-T /T2)+1*ASI + 1*IP (UDP, RTP/RTSP)	2*ASI(multiplexing & backup)+IP(100M, 1*MPTS or 8*SPTS, UDP, RTP/RTSP)	4*CI slots decryption; BISS descramble supported

	Four-Channel Professional Receiver	INGRON1114IS	4*Tuner(DVB-C, DVB-S/S2, or DVB-T/T2)+1*ASI +1*IP(1000M, UDP, RTP/RTSP)	4*ASI(corresponding with 4*Tuner/4*IP inputs, in mirror)+IP(1000M, UDP, RTP/RTSP) in 4*MPTS (corresponding with 4*Tuner, in mirror) / 48*SPTS (from 4*Tuner & 4*IP & 1*ASI)	4*CI slots for multi-program decryption	
		INGRON1210FR	10*Tuner(DVB-S/S2)+1*ASI	2*ASI+IP(UDP, 1*MPTS, 1000M)	De-modulation&re-multiplexing; Max. input 10*DVB-S2 RF; PCR, PID filtering & remapping; PSI/SI compliation, NIT, LCN insertion	
		INFRON2008FR (4*IP to 8*CVBS)	4*IP(UDP, 100M, MPTS/SPTS) + 1*ASI	8*CVBS + 8*L/R	Video decoding in MPEG-2 / MPEG-4 AVC(H.264) /AVS+; Audio decoding in MPEG-1 Layer II	
	Eight-Channel Professional Receiver(FTA)	INGRON1108FR	8*Tuner(DVB-C, DVB-S/S2, DVB-T/T2, ISDB-T or ATSC-T)	8*MPTS over 8*IP addresses, UDP	1*GigE(1000M) output; Supporting parallel 1Gbps data output channel; BISS descrambling; Max. bit-rate of 800 Mbps achievable	
		INGRON1132FR	8*Tuner(DVB-C, DVB-S/S2, DVB-T/T2, ISDB-T or ATSC-sT) 8*ASI	IP(32*SPTS/20*SPTS, UDP, RTP/RTSP)		
	Eight-Channel Professional Receiver(FTA)	INGRON1206FR	6*Tuner(DVB-T/T2, DVB-C, DVB-S/S2, ATSC or ISDB-T)+ 2*ASI 8*ASI	2*ASI+2*ASI(backup)+1* Data port for 2*separate Gigabit(1000M, UDP) IP	Support 4 different simulcrypt CAS; PSI/SI information analyzing and editing; NIT, LCN insertion	
	Four-Channel Professional Receiver(FTA)	INGRON1204FR	4*Tuner(DVB-S/S2)	4*ASI+4*Tuner(Loop Out)	SCPC/MCPC from C-band of satellite available	
	Encoder Modulator (1U) Series	MPEG-2/H.264 HD DVB-S/S2 Encoder Modulator	INGRON7001EM	1*SDI+1*ASI	1*RF(DVB-S2, 950~2150MHz or 50~200MHz) +1*ASI+1*ASI(backup)+1*GPS 10MHz	Resolution up to 1080P HD; MPEG-2/MPEG-4 AVC(H.264) HD compression; BISS function; adequate for DSNG system to encode SD/HD programs to DVB-S2 uplink; LCN insertable, PID & PSI/SI editable; Low latency or logo insertion from USB port optional; 24V/4A coupling power output optional (RF item only)
				1*HDMI+1*HDMI (backup)		
				1*HDMI+1*YPbPr +1*L/R+1*ASI		
2*CVBS+1*ASI						
1*CVBS+1*ASI						
2*YPbPr+2*CVBS +2*S-Video+2*L/R						
INGRON7002EM		2*SDI+1*ASI	1*RF(DVB-S/S2, 950~1050 MHz, successionaly adjustable, in 1KHz stepping)+1*ASI+1*IP (UDP, 100M)	Resolution up to 1080P HD; MPEG-2/MPEG-4 AVC(H.264) HD compression; Closed Caption(CC) optional for SDI and CVBS input; PCR accurate adjustable and PSI/SI editable; PID re-mapping and pass-through; Low latency		
		2*HDMI+1*ASI				
		2*YPbPr+2*CVBS+ 2*S-Video+1*ASI				
		2*HDMI+2*YPbPr+2*L/R+1*ASI				
2*VGA+2*HDMI+ 2*L/R+1*ASI	1*RF(DVB-S/S2, 950~1050 MHz, successionaly adjustable, in 1KHz stepping)+ 1*IP (UDP, 100M)+2*ASI(in mirror)	24V/4A coupling power output optional				
1*ASI+1*Tuner(for re-mix)						
Four-Channel HDMI or SDI to RF MPEG-2/ H.264 Encoder Modulator	INGRON7004EM	4*HDMI+1*ASI +1*RF(for multiplexing) 4*SDI+1*ASI +1* RF(for multiplexing)	1*IP(100M, UDP)+1*ASI +1*RF(with 2*DVB-T, 4*DVB-C, 4*ATSC-T or 1*ISDB-T)	Closed Caption; MPEG-2/MPEG-4 AVC(H.264) HD compression; Audio compression with AAC, AC3(optional)		

Encoder Modulator (1U) Series	Four-Channel DVB-S/S2 to DVB-C/DVB-T TransModulator	INGRON7004EM	4*DVB-S/S2+4*CI Slots +1*ASI + 1*Tuner(for mixing)	1/2*DVB-T or 1/4*DVB-C Carriers+1*ASI+1*IP(100M, UDP)	Up to 4*QPSK/8PSK DVB-S/S2 in; Integrated with demodulation, trans-multiplexing, and modulation; Each CI able to decrypt multiple programs
	Eight-Channel HDMI to DVB-C / DVB-T H.264 HD Encoder Modulator	INGRON7008EM	8*HDMI+1*ASI	1*RF(2*DVB-C or 2*DVB-T adjacent carriers) +2*ASI+1*IP (4*MPTS / 8*SPTS, UDP/RTP/RTSP, 1000M)	Resolution up to 1080P; MPEG-4 AVC(H.264) HD compression; Audio compression with AAC, AC3(optional); PID remapping and passthrough; PCR accurate adjustable
	Four/Two-Channel CVBS to RF MPEG2 SD Encoder Modulator	INGRON7204EM	4*CVBS+1*ASI +1*RF 2*SDI+1*ASI+1*RF 2*Tuner(DVB-S/S2, or DTMB)+1*ASI +1*RF	1*IP(100M, UDP)+1*ASI +1*RF(with 2*DVB-T, 4*DVB-C, 4*ATSC-T or 1*ISDB-T)	MPEG-2 video compression; LCN, NIT insertable; Program name & number, service ID, audio&video PID; PMT&PCR PID etc. able to be configured;
	Eight-Channel CVBS to DVB-C MPEG-2 SD Encoder Modulator	INGRON7208EM	8*CVBS+8*unbalanced stereo L/R +1*ASI	1*RF(DVB-C, J.83A/B/C) +1*ASI+8*IP(1*SPTS or 8*MPTS over IP, 100M, UDP)	MPEG-2 video compression; Audio encoding with AC3; LCN insertion
	Eight-Channel CVBS to DVB-T MPEG-2 SD Encoder Modulator	INGRON7208EM	8*CVBS+8*unbalanced stereo L/R +1*ASI	2*RF(DVB-T, COFDM) +1*ASI+8*IP(1*SPTS or 8*MPTS over IP, 100M, UDP)	MPEG-2 video compression; Audio encoding with AC3; 2*adjacent DVB-T frequency output;
	Eight-Channel CVBS to DVB-C/T MPEG-2/H.264 SD Encoder Modulator	INGRON7208AEM	8*CVBS+8*unbalanced stereo L/R +1*ASI	1*RF(1*DVB-C or 2*DVB-T) +1*ASI+8*IP(1*SPTS or 8*MPTS over IP, 100M, UDP/RTP/RTSP)	MPEG-2/H.264 video compression; Audio encoding with AAC; AC3 optional; 1*DVB-C/2*adjacent DVB-T frequency output; Low latency; VBR/CBR Video encoding
	Eight-Channel CVBS to DVB-C MPEG-2/H.264 Encoder Modulator	INGRON7308EM	8*CVBS+8*unbalanced stereo L/R +1*ASI	1*RF(1*DVB-C) +1*ASI+8*IP(1*SPTS or 8*MPTS over IP, 100M, UDP)	MPEG-2/H.264 video compression; Audio encoding with AAC; 1*DVB-C frequency output; Low bit-rate encoding; VBR/CBR Video encoding; PSI/SI edit and insertion; One Seg/ISDB-T utilization
Encoder Modulator (Smart-Version)	Single-Channel CVBS to RF MPEG-2 SD Encoder Modulator	INGRON7501MEM	1*CVBS 1*CVBS+1*USB +1*RF(for multiplexing)	1*RF(DVB-T) 1*RF(DVB-C, DVB-T, ISDB-T, ATSC-T, or DTMB)	MPEG-2 video compression; MPEG-1 Layer II audio compression; USB for upgrading
	Two-Channel MPEG-2 SD Encoder Modulator	INGRON7502MEM	2*CVBS+2*YpPr +2*S-Video+2*L/R+ 1*USB	1*RF(DVB-C, DVB-T, ISDB-T, ATSC-T, or DTMB)	MPEG-2 video compression; LCN, NIT insertion; Program name & number, service ID, audio&video PID; PMT&PCR PID etc. able to be configured; USB for TS recorder, save, playback, etc.
	Single-Channel H.264 HD Encoder Modulator	INGRON7511MEM	1*HDMI+1*USB + 1*RF(for mixing)	1*RF(DVB-C, DVB-T, ISDB-T, ATSC-T, or DTMB)	MPEG-4 AVC(H.264) compression; LCN, NIT insertion; Program name & number, service ID, audio&video PID; PMT&PCR PID etc. able to be configured; AAC audio encoding optional; USB for recording, saving or playback
			1*HDMI+1*USB +1*VGA(CVBS+ YpPr+S-Video) + 1*RF(for mixing)		
		1*HDMI + 1*RF(for mixing)	1*RF(DVB-T)	MPEG-4 AVC(H.264) video compression; MPEG-1 Layer II audio compression; USB for upgrading	

Encoder Modulator (Smart-Version)	Single-Channel H.264 HD Encoder Modulator	INGRON7531MEM	1*HDMI+1*CVBS + 1*stereo/2*mono + 1*USB + 1*RF(for mixing)	1*RF(DVB-T)	H.264 HD video compression; Up to 1080P Full HD; HDMI or CVBS or HDMI+CVBS input optional; USB for recording, saving or playback
	Single-Channel MPEG-2/H.264 HD Encoder Modulator	INGRON7521MEM	1*HDMI+1*YPbPr/1*CVBS+1*stereo/2*mono+1*USB + 1*RF(for mixing)	1*RF(DVB-C, DVB-T, ISDB-T, ATSC-T, or DTMB)	MPEG-2/MPEG-4 AVC(H.264) compression; LCN, NIT insertion; Program name & number, service ID, audio&video PID; PMT&PCR PID etc. able to be configured; LC-AAC/HE-AAC audio encoding, (Dolby AC3 optional)
Transcoder	8-Channel Any-to-Any Transcoder	INGRON2408ET	4*Tuner(DVB-S/S2, DVB-T/T2, DVB-C, ATSC, ISDB-T)+8*IP with CAM/CI Slots; or 6*Tuner/6*ASI +8*IP; or 4*Tuner/4*ASI	1*ASI+1*ASI(backup)+IP (1*MPTS/8*SPTS, 1000M, UDP/RTP/RTSP)	Video trans-coding MPEG-2 SD/HD to H.264 SD/HD, in any-to-any way; Audio trans-coding MPEG-1 Layer II, AAC, AC3 in any to any, or pass through; Transcode up to 8*SD or 4*HD video and 8*audio simultaneously; BISS Descrambling; Support Closed Caption(CC); Support HD and SD resolutions
Optical Transceiver	Optical Transmitter for 2-Channel HD Video & 3-Channel Analog	INGRON3701OT	2*HD-SDI; 3*XLR(analog) stereo	Fiber(SC/APC, FC/APC, SC/PC, FC/PC optional)	Different type and quantity input signals customizable; Optical wavelength: 1310nm, 1550nm; Transmission length: 0~100km (standard configured in 40km); Excellent signal accuracy, circuit jitter reduction
	Optical Receiver for 2-Channel HD Video & 3-Channel Analog (Customized Version)	INGRON3702OT	Fiber(SC/APC, FC/APC, SC/PC, FC/PC optional)	2*HD-SDI; 3*XLR(analog) stereo	
*Other customized version according to specific applications.					
IP Streaming Processor Module	8-Channel IP Mux-Scrambler Module	INGRON928IMS	1*IP(GigE, RJ45 interface or SFP; 256*MPTS/SPTS IP Streaming; UDP)	1*IP(GigE, RJ45 interface or SFP; 8*MPTS/SPTS IP Streaming)	Up to 4 different simulcrypt CAS; TS over UDP, Unicast and Multicast, IGMP V2/V3 Output: Max. 108Mbps per channel; Max. 840Mbps of all channels
	8-Channel IP Multiplexing QAM Modulator Module	INGRON908IMC	1*IP(GigE, RJ45 interface or SFP; 10 different IP, MPTS/SPTS IP Streaming; UDP)	8*DVB-C adjacent Carriers 2*F Type Output	TS over UDP, Unicast and Multicast, IGMP V2/V3; DVB-C(EN300 429), ITU-T J.83A/B/C
	8-Channel IP Mux-Scrambler and QAM Modulator Module (IP to DVB-C Modulator)	INGRON918IMSC	1*IP(GigE, RJ45 interface or SFP; 256*MPTS/SPTS IP Streaming; UDP/RTP)	8*DVB-C adjacent Carriers (2*F Type Output) + 8*IP (UDP, 1000M)	Up to 4 different simulcrypt CAS; TS over UDP/RTP, Unicast and Multicast, IGMP V2/V3; DVB-C(EN300 429), ITU-T J.83A/B/C
	8-Channel IP Multiplexing ATSC Modulator Module (IP to ATSC Modulator)	INGRON918IMA	1*IP(GigE, RJ45 interface or SFP; 256*MPTS/SPTS IP Streaming; UDP)	8*ATSC adjacent Carriers (2*F Type Output) + 8*IP (UDP, 1000M)	TS over UDP, Unicast and Multicast, IGMP V2/V3; Modulation Standard ATSC A/ 53; Constellation 8VSB
	8-Channel IP Multiplexing DVB-T Modulator Module (IP to DVB-T Modulator)	INGRON914IMT	1*IP(GigE, RJ45 interface or SFP; 256*MPTS/SPTS IP Streaming; UDP/RTP)	4*DVB-T adjacent Carriers + 4*IP(UDP, 1000M)	TS over UDP/RTP, Unicast and Multicast, IGMP V2/V3; Modulation Standard ETSI EN300 744; Constellation QPSK/16QAM/64QAM