Appendix - Product Selection Table

Revision V1.3 July. 2019

Managed Switches (Rackmount)

Model	Total Ports	GbE			10GbE	Redundant Input Power	Certification			
		10/100/1000 Base-T (X) RJ45	100/1000 Base-X SFP	100/1000Base-X SFP &RJ45	1G/2.5G/10G Base-X SFP+	110/220VAC or 24/48VDC, -48VDC	Safety UL60950-1 EN60950-1	EN50121-4	EN61000-6-2 EN61000-6-4	CE/ FCC
ICS-G4804X	52	48			4	✓	✓	✓	✓	✓
ICS-G24044X	32	24	4		4	✓	✓	✓	✓	✓
ICS-G24S4X	28		20	4Combo	4	✓	✓	✓	✓	✓
ICS-G24S2X	26		20	4Combo	2	✓	✓	✓	✓	✓
IGS-4804SM	52	48	4			✓	✓	✓	✓	✓
IGS-2408SM	32	24	8			✓	✓	✓	✓	✓
IGS-S2804TM	28		24	4Combo		✓	✓	✓	✓	✓

Managed PoE Switches (Rackmount)

Model	Total Ports	GbE		10GbE	PoE Port	Redundant Input Power	Certification			
		10/100/1000 Base-T (X) RJ45	100/1000 Base-X SFP	1G/2.5G/10G Base-X SFP+	IEEE802.3at (Budget)	48VDC	Safety UL60950-1 EN60950-1	EN50121-4	EN61000-6-2 EN61000-6-4	CE/ FCC
ICS-G24044X-24PH	32	24	4	4	24 (400W)	✓	✓	✓	✓	✓
IGS-2408SM-24PH	32	24	8		24 (400W)	✓	✓	✓	✓	✓

SyncE Managed Switches & SyncE Managed Switches with PoE

Model	Total Ports	UTP	Fiber	PoE		Redundant Power Input	Certification				
		10/100/1000 Base-T	10/100 Base-TX	IEEE 802.3af/at	Power Budget		RailWay EN50121-4	Safety UL60950-1 EN60950-1	Traffic Control NEMA TS2	EN61000-6-2 EN61000-6-4	CE/ FCC
IGS-804SM-SE	12	8	4 SFP			12/24/48VDC	✓	EN60950-1		✓	✓
IGS-1608SM-SE	24	16	8 SFP			12/24/48VDC	✓	✓	✓	✓	✓
IGS-804SM-SE-8PH	12	8	4 SFP	8	240W	48VDC	✓	EN60950-1	✓	✓	✓
IGS-1608SM-SE-8PH	24	16	8 SFP	8	240W	48VDC	✓	✓		✓	✓

4G LTE Router /Gateway

Model	WAN		WAN/LAN		Local port		Certification					
	Cellular Mobil	GNSS (Ant.ptional)	WiFi	UTP Ethernet	DI, DO	Serial	NCC	Radio	RailWay EN50121-4	Safety EN60950-1	EN61000-6-2 EN61000-6-4	CE/ FCC
ICR-W403	2G/3G/4G LTE	GPS	IEEE 802.11ac/b/g/n (LAN or WAN)	2x GbE (LAN) + 1x GbE (LAN or WAN)	2x DI, 1x DO	1xRS232			✓	✓	✓	✓
ICR-4103	2G/3G/4G LTE			1x FE (WAN) + 3x FE (LAN)	2x DI, 1x DO	2x RS232 1x RS485	✓	RED	✓	✓	✓	✓
ICR-W401 (Compact)	2G/3G/4G LTE	GPS	IEEE 802.11 b/g/n (LAN)	1x FE (LAN) + 1x FE (WAN)	1x DI, 1x DO	1x RS232						✓

Managed PoE Switches

Model	Total Ports	UTP		Fiber		PoE Port		Redundant Power Input	Certification				
		10/100/1000 Base-T	10/100 Base-TX	FE/GbE	FE/2.5G/ GbE	IEEE 802.3at (Budget)	IEEE 802.3at 4 pairs 60W PoE+ (Budget)		Safety UL60950-1 EN60950-1	RailWay EN50121-4	Traffic Control NEMA TS2	EN61000-6-2 EN61000-6-4	CE/ FCC
IGS-1608SM-8PH	24	16		8 SFP		8 (240W)		48VDC	✓	✓		✓	✓
IGS+803SM-8PH24	11	8		3 SFP		8 (180W)		24/48VDC	✓	✓	✓	✓	✓
IGS+803SM-8PH	11	8		3 SFP		8 (240W)		48VDC	✓	✓	✓	✓	✓
IGS-402SM-4PU	6	4		2 SFP			4 (240W)	48VDC	✓	✓		✓	✓
IGS-803SM-8PH24	11	8		1 SFP	2 SFP	8 (180W)		24/48VDC	UL60950-1	✓	✓	✓	✓
IGS-402SM-4PH24	6	4		1 SFP	1 SFP	4 (120W)		24/48VDC	UL60950-1	✓	✓	✓	✓
IFS-1608GSM-8PH	24		16	8 SFP		8 (240W)		48VDC	✓	✓		✓	✓
IFS+803GSM-8PH24	11		8	3 SFP		8 (180W)		24/48VDC	✓	✓	✓	✓	✓
IFS-803GSM-8PH24	11		8	3 SFP		8 (180W)		24/48VDC	UL60950-1	✓	✓	✓	✓
IFS-402GSM-4PU	6		4	2 SFP			4 (240W)	48VDC	✓	✓		✓	✓
IFS-402GSM-4PH24	6		4	2 SFP		4 (120W)		24/48VDC	UL60950-1	✓	✓	✓	✓

Appendix - Product Selection Table

Unmanaged PoE Switches

Model	Total Port	RJ45 UTP Port		Fiber Port		PoE port		Redundant Power Input	Certification			
		10/100 Base-TX	10/100/1000 Base-T(X)	1000Base-X Base-X	100/1000 Base-X	IEEE 802.3at (Budget)	IEEE 802.3at 4 pairs 60W PoE+ (Budget)		Railway EN50121-4	Safety UL60950-1	EN61000-6-2 EN61000-6-4	CE / FCC
IGS-600-4PH24	6		6			4 (120W)		24/48VDC	✓	✓	✓	✓
IGS-402S-4PH24	6		4		2 SFP	4 (120W)		24/48VDC	✓	✓	✓	✓
IGS-402F-4PH24	6		4	2 SC		4 (120W)		24/48VDC	✓	✓	✓	✓
IGS-402S-4PU	6		4		2 SFP		4 (240W)	48VDC	✓		✓	✓
IFS-1602GS-8PH	18	16		2 SFP		8 (240W)		48VDC	✓		✓	✓
IFS-802GS-8PH	10	8		2 SFP		8 (240W)		48VDC	✓		✓	✓

PoE Converters

Model	Managed	UTP		Fiber		PoE		Redundant Power Input	Certification		
		10/100 Base-T	10/100/1000 Base-T	100Base-X	Dual Speed 100/1000Base-X	IEEE 802.3at (PSE)	Power Budge		Railway EN50121-4	EN61000-6-2 EN61000-6-4	CE / FCC
IMC-1000MS-PH12	✓		1		1 SFP	1	30W	12/24/48VDC	✓	✓	✓
IMC-1000S-PH12			1		1 SFP	1	30W	12/24/48VDC	✓	✓	✓
IMC-100-PH12		1		1 SC/ST		1	30W	12/24/48VDC	✓	✓	✓

Managed Switches

Model	Total Ports	UTP Port		Fiber Port		Redundant Power Input	Certification				
		10/100 Base-TX	10/100/1000 Base-T(X)	FE/GbE	FE/2.5G/ GbE		Safety UL60950-1	Railway EN50121-4	Traffic Control NEMA TS2	EN61000-6-2 EN61000-6-4	CE / FCC
IGS-1604SM	20		16	4 SFP		12/24/48VDC	✓	✓		✓	✓
IGS-812SM	20		8	12 SFP		12/24/48VDC	✓	✓		✓	✓
IGS+803SM	11		8	3 SFP		12/24/48VDC	UL60950-1& EN60950-1	✓	✓	✓	✓
IGS+404SM	8		4	4 SFP		12/24/48VDC		✓		✓	✓
IGS-803SM	11		8	1 SFP	2 SFP	12/24/48VDC	✓	✓	✓	✓	✓
IGS-404SM	8		4	2 SFP	2 SFP	12/24/48VDC	✓	✓	✓	✓	✓
IFS-1604GSM	20	16		4 SFP		12/24/48VDC	✓	✓		✓	✓
IFS+803GSM	11	8		3 SFP		12/24/48VDC	UL60950-1& EN60950-1	✓	✓	✓	✓
IFS-803GSM	11	8		3 SFP		12/24/48VDC	✓	✓	✓	✓	✓
IFS-402GSM	8	4		2 SFP		12/24/48VDC	✓	✓	✓	✓	✓

Unmanaged Switches

Model	Total Ports	UTP Port		Fiber Port		Power Input		Certification				
		10/100 Base-TX	10/100/1000 Base-T	100Base-FX	1000Base-X	Redundant	Single Power	Railway EN50121-4	Safety UL60950-1	EN61000-6-2 EN61000-6-4	CE	FCC
IGS-800	8		8			12/24/48VDC		✓		✓	✓	✓
IGS-501S	6		5		1 SFP	12/24/48VDC		✓		✓	✓	✓
IGS-500	5		5			12/24/48VDC		✓		✓	✓	✓
IGS-402S	6		4		2 SFP	12/24/48VDC		✓	✓	✓	✓	✓
IGS-402F	6		4		2 SC/ST	12/24/48VDC		✓	✓	✓	✓	✓
IFS-1602GS	18	16			2 SFP	12/24/48VDC		✓		✓	✓	✓
IFS-802GS	10	8			2 SFP	12/24/48VDC		✓		✓	✓	✓
IFS-800	8	8				12/24/48VDC		✓		✓	✓	✓
IFS-402F	6	4		2 SC/ST		12/24/48VDC		✓		✓	✓	✓
IFS-401F	5	4		1 SC/ST		12/24/48VDC		✓		✓	✓	✓
IFS-500C	6	5					12/24/48VDC	✓		✓	✓	✓

Appendix - Product Selection Table

Media Converters

Model	Managed	UTP		Fiber		Redundant Power Input	Certification			
		10/100 Base-TX	10/100/1000 Base-T	100Base-FX	Dual Speed 100/1000Base-X		Safety UL60950-1	Railway EN50121-4	EN61000-6-2 EN61000-6-4	CE/ FCC
IMC-1000MS	8		1		1 SFP	12/24/48VDC	✓	✓	✓	✓
IMC-1000S	6		1		1 SFP	12/24/48VDC	✓	✓	✓	✓
IMC-1000C	5		1		1 SC/ST	12/24/48VDC Single Power		✓	✓	✓
IMC-1000CS	6		1		1 SFP	12/24/48VDC Single Power		✓	✓	✓
IMC-100	6	1		1 SC/ST		12/24/48VDC	✓	✓	✓	✓
IMC-100C	18	1		1 SC/ST		12/24/48VDC Single Power		✓	✓	✓

Optical Fiber Bypass Switch

Model	Fiber connector			Redundant Power Input	Certification		
	Connector type	Connector port	Data rate		Railway EN50121-4	EN61000-6-2 EN61000-6-4	CE/FCC
IBP-202	SC/ST/LC	4	100M/Giga/2.5G/10G	12/24/48VDC	✓	✓	✓

EN50155 PoE Switches

Model	Managed	Protection	Total Port	UTP Ports		Fiber ports	PoE Port	Redundant Input Power	Certification				
				10/100Base-TX M12	10/100/1000 Base-T M12	100/1000Base-X	IEEE 802.3at (budget)		EN45545-2	Railway EN50155 EN50121-4	Safety EN60950-1	EN61000-6-2 EN61000-6-4	CE/ FCC
ITP-1204GTM-12PH	✓	IP64	16	12	4		12 (120W)	24/48/72/96/110VDC	✓	✓	✓	✓	✓
ITP-2204GTM-16PH	✓	IP64	26	22	4		16 (120W)	24/48/72/96/110VDC	✓	✓	✓	✓	✓
ITP-802GSM-8PH24	✓	IP67	10	8		2 SFP	8 (180W)	24/48VDC	✓	✓	✓	✓	✓
ITP-802GTM-8PH24	✓	IP67	10	8	2		8 (180W)	24/48VDC	✓	✓	✓	✓	✓
ITP-G802SM-8PH24	✓	IP67	10		8	2 SFP	8 (180W)	24/48VDC	✓	✓	✓	✓	✓
ITP-G802TM-8PH24	✓	IP67	10		10		8 (180W)	24/48VDC	✓	✓	✓	✓	✓
ITP-800-8PH24		IP67	8	8			8 (150W)	24/48VDC		✓		✓	✓

EN 50155 Switches

Model	Managed	Protection	Total Port	UTP Ports		Fiber ports	Redundant Input Power	Certification				
				10/100Base-TX M12	10/100/1000 Base-T M12	100/1000Base-X		EN45545-2	Railway EN50155 EN50121-4	Safety EN60950-1	EN61000-6-2 EN61000-6-4	CE/ FCC
ITP-1204GTM	✓	IP64	16	12	4		24/48/72/96/110VDC	✓	✓	✓	✓	✓
ITP-2204GTM	✓	IP64	26	22	4		24/48/72/96/110VDC	✓	✓	✓	✓	✓
ITP-G802SM	✓	IP67	10		8	2 SFP	12/24/48VDC or 110/220VDC	✓	✓	✓	✓	✓
ITP-G802TM	✓	IP67	10		10		12/24/48VDC or 110/220VDC	✓	✓	✓	✓	✓
ITP-802GSM	✓	IP67	10	8		2 SFP	12/24/48VDC or 110/220VDC	✓	✓	✓	✓	✓
ITP-802GTM	✓	IP67	10	8	2		12/24/48VDC or 110/220VDC	✓	✓	✓	✓	✓
ITP-500		IP67	5	5			12/24/48VDC		✓		✓	✓
ITP-800		IP67	8	8			12/24/48VDC		✓		✓	✓

IEC 61850-3 Switches

Model	Total Port	UTP		Fiber	Redundant Power Input	Certification				
		10/100 Base-TX	10/100/1000 Base-T (X)	100/1000 Base-X		IEC61850-3 IEEE 1613	Safety UL60950-1 EN60950-1	EN50121-4	EN61000-6-2 EN61000-6-4	CE/ FCC
IPS-G803SM	11		8	3 SFP	24/48VDC or 110/220VDC/AC	✓	✓	✓	✓	✓
IPS-803GSM	11	8		3 SFP	24/48VDC or 110/220VDC/AC	✓	✓	✓	✓	✓

Appendix - Product Selection Table

PoE LAN Extender

Model	UTP	Long Distance		PoE Port	Certification		
	10/100Base-TX	RJ11	Coaxial	IEEE 802.3at	Safety EN60950-1	CE	FCC
IEXT224-4PH	4	1	1	4	✓	✓	✓

PoE Injectors

Model	LAN UTP Port	PoE UTP Port		Power Input	Certification			
	10/100/1000Base-T (X)	10/100/1000Base-T (X)	PoE Power Budget		EN60950-1	EN61000-6-2 EN61000-6-4	EN50121-4	CE/FCC
INJ-IG60-24	✓	✓	15.4W/30W/36W/60W/72W	24/48VDC Redundant	✓	✓	✓	✓
INJ-IG01-PH	✓	✓	15.4W/30W/36W/60W	48VDC		✓	✓	✓
INJ-G30	✓	✓	15.4W/30W	Power Adapter				✓

Fieldbus Fiber Converters

Model	Dual Channel	Serial					Fiber		Redundant Power Input	Certification		
		RS232	RS422/485	FieldBus	Baud rate Max (bps)	Isolatation	SC/ST	Redundantcy		Safety UL60950-1	EN61000-6-2 EN61000-6-4	CE/FCC
IFC-FDC-PRO			1	Profibus	12M	2.5KV	2	✓	12/24/48VDC		✓	✓
IFC-Serial-PRO			1	Profibus	12M	2.5KV	1		12/24/48VDC		✓	✓
IFC-FDC	✓	2	1	Modbus or thers	1M	2.5KV	2	✓	12/24/48VDC	✓	✓	✓
IFC-Serial	✓	2	1	Modbus or thers	1M	2.5KV	1		12/24/48VDC	✓	✓	✓

Contact Closure Fiber Converter

Model	Input	output	Fiber transmission	Power Input	Certification		
					EN61000-6-2 EN61000-6-4	CE	FCC
IFC-CCF40-HP	4x Channel Binary	4x MSR Contact Relay	1x SC/ST/Bidi	60~264VAC or 60~300VDC	✓	✓	✓

IP Device Servers

Model	UTP	Serial		Certification	
	10/100Base-TX	RS232	RS232/422/485	CE	FCC
STE100A-232	1	1		✓	✓
STE100A-Serial	1		1	✓	✓

Industtrial Power Supplies

Model	Input Voltage Range	Output Voltage	Output Voltage Adj. Range	Output Power	Operating Temperature
NDR-480-48	90~264VAC / 127~370VDC	48VDC	48~55VDC	480W	-20~70℃
NDR-240-48	90~264VAC / 127~370VDC	48VDC	48~55VDC	240W	-20~70℃
NDR-120-48	90 ~ 264VAC / 127 ~ 370VDC	48VDC	48~55VDC	120W	-20~70℃
NDR-120-24	90 ~ 264VAC / 127 ~ 370VDC	24VDC	24~28VDC	120W	-20~70℃
DR-4524	85 ~ 264VAC / 120 ~ 370VDC	24VDC	21.6~26.4VDC	48W	-10~50℃
MDR-20-24	85 ~ 264VAC / 120 ~ 370VDC	24VDC	21.6~26.4VDC	24W	-20~70℃

Appendix - Product Selection Table

Long-Reach copper wire SFP (500meter~3km)

■ 10GBase-X Fiber SFP

Model	Cable Type	Typical Distance	Wavelength (nm)	TX (dBm) (Min~Max)	RX Sensitivity (dBm)	Power Budget (dB)	Saturation (dBm)	DDMI diagnostic monitoring	Operating Temperature
ISFP-M9000-85-D (E)	M/M (OM3)	300m	850nm	-7.1 ~ -1	-9.9 dBm	8.9	-1	V	-10~70°C (-40~85°C)
ISFP-S9010-31-D (E)	S/M	10km	1310nm	-6 ~ +0.5	-14.4	8.4	0.5	V	-10~70°C (-40~85°C)

■ 1.25Gbps 1000Base-X Fiber SFP

Model	Cable Type	Typical Distance	Wavelength (nm)	TX (dBm) (Min~Max)	RX Sensitivity (dBm)	Power Budget (dB)	Saturation (dBm)	DDMI diagnostic monitoring	Operating Temperture
ISFP-M7000-85-(DE)	MM	550m	850	-9.5~-4	-17	7.5	-3	Optional	-10~70°C (-40~85°C)
ISFP-S7020-31-(DE)	SM	20km	1310	-8~-2	-23	15	-1	Optional	-10~70°C (-40~85°C)
ISFP-S7020-WA-D(E)	SM	20km	T1310/R1550	-8~2	-23	15	-2	V	-10~70°C (-40~85°C)
ISFP-S7020-WB-D(E)	SM	20km	T1550/R1310	-8~2	-23	15	-2	V	-10~70°C (-40~85°C)

■ 1.25Gbps 1000Base-T UTPr SFP

Model	Cable Type	Typical Distance	Operating Temperature
ISFP-T7T00-00-(E)	UTP Cat 5e	100m	-10~70°C (-40~85°C)

■ 155Mbps 100Base-FX Fiber SFP

Model	Cable Type	Typical Distance	Wavelength (nm)	TX (dBm) (Min~Max)	RX Sensitivity (dBm)	Power Budget (dB)	Saturation (dBm)	DDMI diagnostic monitoring	Operating Temperture
ISFP-M5002-31-(DE)	MM	2km	1310	-20~-14	-32	12	-8	Optional	-10~70°C (-40~85°C)
ISFP-S5030-31-(DE)	SM	30km	1310	-15~-8	-34	19	-5	Optional	-10~70°C (-40~85°C)

SmartView EMS for Industrial Product

Model	Dual Channel
SV2-AGT-50	SmartView management software with 50 nodes (by IP address)
SV2-AGT-100	SmartView management software with 100 nodes (by IP address)
SV2-AGT-200	SmartView management software with 200 nodes (by IP address)
SV2-AGT-500	SmartView management software with 500 nodes (by IP address)

*Specifications & design are subject to change without prior notice. Please visit CTC Union website for more details.