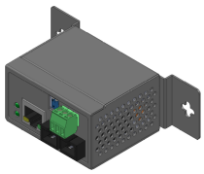
distelco
Digital Integrated Solutions for Telecommunication and Control

CS6011SC

Rugged Industrial Media Converter, Wide range power input 18-36VAC/12-60VDC/or DC Jack, -40°C to +75°C 10/100M TX to 100M FX, SC MM 2km, smallest size on the planet. Designed to fit into outdoor CAM enclosure.



Panel mount

Din Rail mount

CS6011SC

Designed to fit into space-limited CAM enclosure, can also be used as Din-Rail mounted or panel mounted unit.

Models Available:

CS6011SC --- MM SC
CS6011ST --- MM ST
CS6011SC-30 ---SC SM fiber 30km
CS6011SFP --- SFP
CS6011WDM-15A (1310)
CS6011WDM-15B (1550)

Key Features:

True Mini, rugged design enclosure 59x36x49mm (LxWxD)
Supports 18V-36VAC/12V-60VDC/ or DC Jack socket
Supports Link Fault Pass through (LFP) function
Supports switch model and converter mode.
Surge protection diodes on power input.
ESD protection diodes on RJ-45 port
Provides Far End Fault function on FX port.
Provides increased Noise Immunity
Extended environmental specification -40°C to 75°C

Introduction

This true mini, rugged Industrial media converter is designed for where critical but space-limited outdoor CAM enclosure. It can be powered by wide range of VAC , VDC or external DC power adapter . With its multi-purpose design, it can also be used for Din-Rail or wall-mounted. It is an ideal unit for IP surveillance, traffic monitoring and Security application in critical environment. It can tolerate -40°C to 75°C in harsh environment to perform a reliable network.

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Specification

IEEE Standard	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3u 100Base-FX Fast Ethernet IEEE802.3x Flow Control and Back Pressure
Data Processing	Store and Forward
Flow Control:	IEEE 802.3x Flow Control and Back Pressure
Architecture	Full wire speed conversion, Transparent conversion to 802.1Q VLAN tagged packets.
MAC address Table Size	1K
Packet Buffer Size	1Mbits
Network Connector :	RJ-45 10/100M BaseT(X) Auto negotiation, Auto MDI/MDI-X function, Full/Half duplex Fiber ports: 100BaseFX SC, ST, SC SM 30km, SFP 100BaseX
LED indicators	Power, Speed, Link/Act Speed (TP port) Link/Act(TP and Fiber port)
DIP Switch	Link Fault Pass Through (LFP) Converter Mode, Switch Mode
Power protection	Surge protection diodes on power input
Connector protection	ESD protection diodes on TX port
Reserve polarity protection	Present
Overload current protection	Present
Power Input	18V-36VAC, 9V-60VDC, DC Jack terminal cable supported (DC Barrel Connector)
Conformance to UL Standards	Use Isolated power supply to conform with UL 508 standard
Power Consumption	Full Load: 1.92Watts at 48VDC
Removable Terminal Block	3 pin contact terminal block for power input Wire range: 0.34mm^2 to 2.5mm^2 Solid wire (AWG):12-24/14-22 Stranded wire(AWG): 12-24/14-22 Torque:5lb-In/0.5Nm/0.56Nm Wire Strip length: 7-8mm
Operating Temperature	-40℃~75℃
Operating Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40℃~85℃
Housing Design	IP40 Design, high graded Aluminum
Case Dimension (W X D X H)	59x36x49mm (LxWxD)

Installation	DIN Rail mounted, Panel Mounted,
Safety	EN60950-1
EMC/EMS	CE, FCC, ROHS, VCCI

Fiber Optic Specification: MM 2km

Ambient Operating Temperature (LM32-A3S-PI-N)	T_{AMB}	–40	85	°C	

Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNITS	NOTE
Storage Temperature	T_S	–40	85	°C	
Supply Voltage	*Vcc*	–0.5	4.0	V	
Input Voltage	V_{IN}	–0.5	*Vcc*	V	
Output Current	I_o	---	50	mA	
Operating Current	I_{OP}	---	400	mA	
Soldering Temperature	T_{SOLD}	---	260	°C	10 seconds on leads

Transmitter Electro-optical Characteristics

(*Vcc* = 3.1 V to 3.5 V, LM32-A3S-PC-N: T_A = 0 °C to 70 °C, LM32-A3S-PI-N: T_A = –40 °C to 85°C)

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Data Rate	*B*	10	155	200	Mb/s	
Output Optical Power 62.5/125 μm fiber	*Pout*	–20	---	–14	dBm	Average
Output Optical Power 50/125 μm fiber		–23.5	---	-14	dBm	Average
Extinction Ratio	*ER*	10	---	---	dB	
Center Wavelength	λ_C	1270	1310	1380	nm	
Spectral Width (FWHM)	$\Delta\lambda$		Fig1		nm	
Rise/Fall Time (10–90%)	$T_{r,f}$	---	---	3	ns	
Duty Cycle Distortion	*DCD*			0.6	ns	
Data Dependent Jitter	*DDJ*			0.6	ns	
Random Jitter	*RJ*			0.6	ns	
Power Supply Current	I_{CC}	---	---	150	mA	Note 1
Transmitter Data Input Voltage-High	$V_{IH} - V_{CC}$	–1.1	---	–0.74	V	Note 2
Transmitter Data Input Voltage-Low	$V_{IL} - V_{CC}$	–2.0	---	–1.58	V	Note 2

Note 1: Not including the terminations.
Note 2: These inputs are compatible with 10K, 10KH and 100K ECL and PECL input.

Receiver Electro-optical Characteristics

(Vcc = 3.1 V to 3.5 V, LM32-A3S-PC-N: T_A = 0 °C to 70 °C, LM32-A3S-PI-N: T_A = –40 °C to 85°C)

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Data Rate	B	10	155	200	Mb/s	
Optical Input Power-maximum	P_{IN}	0	---	---	dBm	Note 1
Optical Input Power-minimum (Sensitivity)	P_{IN}	---	---	–31	dBm	Note 1
Operating Center Wavelength	λ_C	1260	---	1610	nm	
Signal Detect-Asserted	P_A	---	---	–31	dBm	Average
Signal Detect-Deasserted	P_D	–45	---	---	dBm	Average
Signal Detect-Hysteresis	$P_A - P_D$	1.0	---	---	dB	
Signal Detect Output voltage-High	$V_{OH} - V_{CC}$	–1.1	---	–0.74	V	Note 2
Signal Detect Output voltage-Low	$V_{OL} - V_{CC}$	–2.0	---	–1.58	V	Note 2
Power Supply Current	I_{CC}	---	---	100	mA	Note 3
Data Output Rise, Fall Time (10–90%)	$T_{r,f}$	---	---	3	ns	
Data Output Voltage-High	$V_{OH} - V_{CC}$	–1.1	---	–0.74	V	Note 2
Data Output Voltage-Low	$V_{OL} - V_{CC}$	–2.0	---	–1.58	V	Note 2

Note 1: The input data is at 155.52 Mbps, 2^{23}–1 PRBS data pattern .The receiver is guaranteed to provide output data with Bit Error Rate (BER) better than or equal to 2.5×10^{-10}.
Note 2: These outputs are compatible with 10K, 10KH and 100K ECL and PECL input.
Note 3: The current exclude the output load current.

Fiber Optic Specification: SM 30km

Ambient Operating Temperature (LS32-A3S-PI-N)	T_{AMB}	–40	85	°C

Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNITS	NOTE
Storage Temperature	T_S	–40	85	°C	
Supply Voltage	Vcc	–0.5	4.0	V	
Input Voltage	V_{IN}	–0.5	Vcc	V	
Output Current	I_o	---	50	mA	
Operating Current	I_{OP}	---	400	mA	
Soldering Temperature	T_{SOLD}	---	260	°C	10 seconds on leads

Transmitter Electro-optical Characteristics

(Vcc = 3.1 V to 3.5 V, LS32-A3S-PC-N: T_A = 0 °C to 70 °C, LS32-A3S-PI-N: T_A = –40 °C to 85° C)

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Data Rate	B	50	155	200	Mb/s	
Output Optical Power 9/125 μm fiber	$Pout$	–15	---	–8	dBm	Average
Extinction Ratio	ER	8.2	---	---	dB	
Center Wavelength	λ_C	1261	1310	1360	nm	
Spectral Width (RMS)	$\Delta\lambda$	---	---	4	nm	
Rise/Fall Time (10–90%)	$T_{r,f}$	---	1	2	ns	
Output Eye	Compliant with Telcordia GR-253-CORE Issue 3 and ITU-T recommendation G-957					
Power Supply Current	I_{CC}	---	---	120	mA	Note 1
Transmitter Data Input Voltage-High	$V_{IH} - V_{CC}$	–1.165	---	–0.88	V	Note 2
Transmitter Data Input Voltage-Low	$V_{IL} - V_{CC}$	–1.81	---	–1.47	V	Note 2
Transmitter Data Input Differential Voltage	V_{DIFF}	0.3	---	1.6	V	Note 2

Note 1: Not including the terminations.
Note 2: These inputs are compatible with 10K, 10KH and 100K ECL and PECL input.

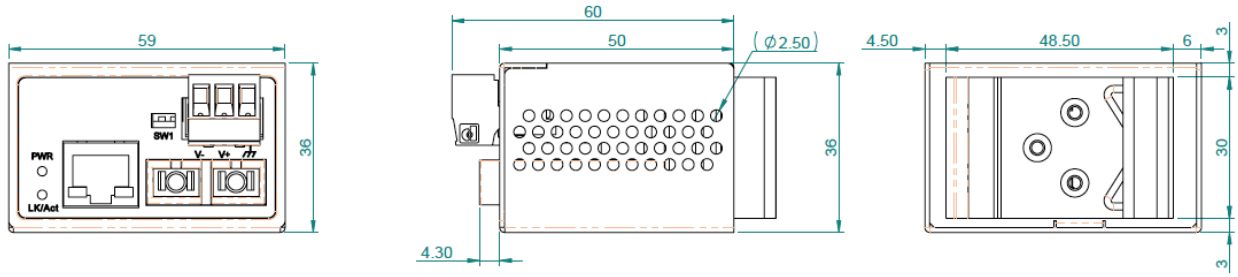
Receiver Electro-optical Characteristics

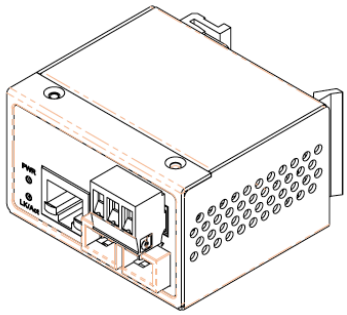
(Vcc = 3.1 V to 3.5 V, LS32-A3S-PC-N: T_A = 0 °C to 70 °C, LS32-A3S-PI-N: T_A = –40 °C to 85° C)

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Data Rate	B	50	155	200	Mb/s	
Optical Input Power-maximum	P_{IN}	0	---	---	dBm	Note 1
Optical Input Power-minimum (Sensitivity)	P_{IN}	---	---	–34	dBm	Note 1
Operating Center Wavelength	λ_C	1260	---	1610	nm	
Signal Detect-Asserted	P_A	---	---	–34	dBm	Average
Signal Detect-Deasserted	P_D	–45	---	---	dBm	Average
Signal Detect-Hysteresis	$P_A - P_D$	1.0	---	---	dB	
Signal Detect Output voltage-High	$V_{OH} - V_{CC}$	–1.1	---	–0.74	V	Note 2
Signal Detect Output voltage-Low	$V_{OL} - V_{CC}$	–2.0	---	–1.58	V	Note 2
Power Supply Current	I_{CC}	---	---	100	mA	Note 3
Data Output Rise, Fall Time (10–90%)	$T_{r,f}$	---	1	2	ns	
Data Output Voltage-High	$V_{OH} - V_{CC}$	–1.1	---	–0.74	V	Note 2
Data Output Voltage-Low	$V_{OL} - V_{CC}$	–2.0	---	–1.58	V	Note 2

Note 1: The input data is at 155.52 Mbps, 2^{23}–1 PRBS data pattern with 72 "1"s and 72 "0"s inserted per the ITU-T recommendation G.958 Appendix 1. The receiver is guaranteed to provide output data with Bit Error Rate (BER) better than or equal to 1×10^{-10}.
Note 2: These outputs are compatible with 10K, 10KH and 100K ECL and PECL input.
Note 3: The current exclude the output load current.

Housing Dimension:





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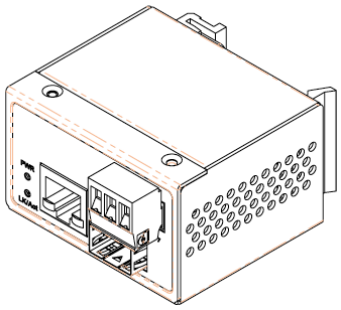

CS6011SFP