Serial-to-Fiber Media Converters















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	ICF-1150-M-SC/ST ICF-1150-M-SC/ST-T	ICF-1150I-M-SC/ST ICF-1150I-M-SC/ST-T	ICF-1150-S-SC/ST ICF-1150-S-SC/ST-T	ICF-1150I-S-SC/ST ICF-1150I-S-SC/ST-T	TCF-142-M-SC/ST TCF-142-M-SC/ST-T	TCF-142-S-SC/ST TCF-142-S-SC/ST-T	TCF-90-M/S
Optical Fiber Side			•		•		
Fiber Connector	SC or ST	SC or ST	SC or ST		SC or ST	SC or ST	ST
Cables Requirements	Multi-mode: 50/125, 6	8.7/125, 9/125, or 10/12 2.5/125, or 100/140 μm	25 μm				
Transmission Distance	Single-mode: 40 km Multi-mode: 5 km						
Wavelength	Single-mode: 1310 nm Multi-mode: 850 nm						
Tx Output	Single-mode: > -5 dBn Multi-mode: > -5 dBm						
Rx Sensitivity	Single-mode: -25 dBm Multi-mode: -20 dBm						
Point-to-Point Transmission	Half-duplex or full-duplex						-
Multi-drop Transmission	Half-duplex, fiber ring						-
RS-232 Side							
Connector	DB9 female	DB9 female	DB9 female	DB9 female	-	-	DB9 female
Signals	-	-	-	-	-	-	Tx, Rx, GND (Loop-back wiring: RTS to CTS,
Baudrate	_	_	_	_	_	_	DTR to DSR and DCD) 50 bps to 921.6 Kbps
RS-232/422/485 Side							30 ups to 321.0 Kups
Connector	Territori Direli						
RS-232 Signals	-						-
RS-422 Signals	TxD+, TxD-, RxD+, RxI	D- SGND					_
RS-485-4w Signals	TxD+, TxD-, RxD+, RxI						_
RS-485-2w Signals	Data+, Data-, SGND	, odivb					_
Baudrate	50 bps to 921.6 Kbps						_
ESD Protection	15 KV for all signals						_
Isolation	2 KV RMS isolation pe	r I/O port for 1 minute			_	-	-
Physical Characteristics							
Housing	Aluminum (1 mm)						ABS + PC
Dimensions (mm)	30.3 x 70 x 115 mm				67 x 100 x 22 mm		42 x 80 x 22 mm
Environmental Limits							
Operating Temperature	0 to 60°C or -40 to 85°	°C					0 to 60°C
Operating Humidity	0 10 00 0 01 10 10 00	0					0 10 00 0
	5 to 95% BH						5 to 95% RH
	5 to 95% RH -40 to 85°C						5 to 95% RH -20 to 75°C
Storage Temperature	5 to 95% RH -40 to 85°C						5 to 95% RH -20 to 75°C
		-	_	-	-	-	
Storage Temperature Power Requirements Source of Input Power	-40 to 85°C	-	-	-	-	-	RS-232 port (TxD signal) or power input jack
Storage Temperature Power Requirements		-	-	-	- 12 to 48 VDC	-	RS-232 port (TxD signal) or power input jack 12 to 48 VDC
Storage Temperature Power Requirements Source of Input Power	-40 to 85°C	- 163 mA @ 12 V	-	-	- 12 to 48 VDC 140 mA @ 12 V	-	RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with
Storage Temperature Power Requirements Source of Input Power Input Voltage	-40 to 85°C - 12 to 48 VDC	- 163 mA @ 12 V	-	-		-	RS-232 port (TxD signal) or power input jack 12 to 48 VDC
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V	- 163 mA @ 12 V	-	-	140 mA @ 12 V	-	RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled)
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT)	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV		-	-	140 mA @ 12 V 2 KV	- reversal	RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled)
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV		-	-	140 mA @ 12 V 2 KV 2 KV	- reversal	RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled)
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V-		-	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V-	- reversal	RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled)
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V-		-	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V-	- reversal	RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled)
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection Regulatory Approvals CE FCC	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V- 1.1 A Class B Part 15 sub Class B		-	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V- 1.1 A		-20 to 75°C RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled) -
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection Regulatory Approvals CE FCC Safety	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V- 1.1 A Class B Part 15 sub Class B UL 508		-	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V- 1.1 A - Part 15 Subclass B		-20 to 75°C RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled) Class B
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection Regulatory Approvals CE FCC Safety UL/CUL	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V- 1.1 A Class B Part 15 sub Class B UL 508 -	reversal	-	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V- 1.1 A - Part 15 Subclass B - UL60950-1	-	RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled) Class B Class B
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection Regulatory Approvals CE FCC Safety	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V- 1.1 A Class B Part 15 sub Class B UL 508 - EN55022 2006, Class	reversal	-	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V- 1.1 A — Part 15 Subclass B — UL60950-1 EN55022 1998, Class	- - B	RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled) Class B Class B
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection Regulatory Approvals CE FCC Safety UL/CUL EMI EMS	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V- 1.1 A Class B Part 15 sub Class B UL 508 - EN55022 2006, Class I EN61000-4-2 (ESD), C EN61000-4-4 (ETD, C EN61000-4-6 (CS), Cric EN61000-4-8 (PFMF),	reversal Britteria A, Level 4 iteria A, Level 3 iteria A, Level 3 Criteria A, Level 3 Criteria A, Level 3 Criteria A, Level 3	-	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V- 1.1 A - Part 15 Subclass B - UL60950-1	B Briteria A, Level 3 iteria A, Level 2 riteria A, Level 2 Criteria A L Level 3	RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled) Class B Class B
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection Regulatory Approvals CE FCC Safety UL/CUL EMI EMS ATEX	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V- 1.1 A Class B Part 15 sub Class B UL 508 - EN55022 2006, Class EN61000-4-2 (ESD), C EN61000-4-3 (RS), Cr EN61000-4-5 (Surge), EN61000-4-6 (CS), Cr EN61000-4-8 (PfMF), Class 1, Zone 2, EEx n	reversal B ritteria A, Level 4 riteria A, Level 3 riteria A, Level 3 riteria A, Level 3 riteria A, Level 3 Criteria A, Level 3 Criteria A, Level 5 C IIC (pending)	-	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V- 1.1 A	B Friteria A, Level 3 riteria A, Level 2 riteria A, Level 2 Criteria A, Level 3 iteria A, Level 2 Criteria A, Level 1	-20 to 75°C RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled) Class B Class B
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection Regulatory Approvals CE FCC Safety UL/CUL EMI EMS ATEX Hazardous Location	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V- 1.1 A Class B Part 15 sub Class B UL 508 - EN55022 2006, Class I EN61000-4-2 (ESD), C EN61000-4-3 (PET), C EN61000-4-5 (Surge), EN61000-4-6 (CS), Cri EN61000-4-7 (SPF), Class 1, Zone 2, Exm UL/cUL Class 1, Div. 2	reversal Britteria A, Level 4 iteria A, Level 3 iteria A, Level 3 Criteria A, Level 3 Criteria A, Level 3 Criteria A, Level 3	- ending)	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V- 1.1 A	B Briteria A, Level 3 iteria A, Level 2 riteria A, Level 2 Criteria A L Level 3	-20 to 75°C RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled) Class B Class B
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection Regulatory Approvals CE FCC Safety UL/CUL EMI EMS ATEX Hazardous Location TÜV	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V- 1.1 A Class B Part 15 sub Class B UL 508 - EN55022 2006, Class I EN61000-4-2 (ESD), C EN61000-4-3 (RS), C EN61000-4-5 (Surge), EN61000-4-6 (CS), C EN61000-4-8 (PFMF), C Class 1, Zone 2, EEX I UL/CUL Class 1, Div. 2 EN 60950-1	reversal B ritteria A, Level 4 riteria A, Level 3 riteria A, Level 3 riteria A, Level 3 riteria A, Level 3 Criteria A, Level 3 Criteria A, Level 5 C IIC (pending)	ending)	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V- 1.1 A	Pitteria A, Level 3 iteria A, Level 3 iteria A, Level 2 criteria A, Level 3 iteria A, Level 3 criteria A, Level 1 -	RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled) Class B Class B
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection Regulatory Approvals CE FCC Safety UL/CUL EMI EMS ATEX Hazardous Location TÜV Freefall	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V- 1.1 A Class B Part 15 sub Class B UL 508 - EN55022 2006, Class EN61000-4-2 (ESD), Cr EN61000-4-3 (RS), Cr EN61000-4-4 (EFT), Cr EN61000-4-6 (CS), cr EN61000-4-6 (CS), cr EN61000-4-8 (PFMP), Class 1, Zone 2, EEx n UL/CUL Class 1, Div. 2 EN 60950-1 IEC 60068-2-32	reversal B ritteria A, Level 4 riteria A, Level 3 riteria A, Level 3 riteria A, Level 3 riteria A, Level 3 Criteria A, Level 3 Criteria A, Level 5 C IIC (pending)	ending)	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V- 1.1 A	B Friteria A, Level 3 riteria A, Level 2 riteria A, Level 2 Criteria A, Level 3 iteria A, Level 2 Criteria A, Level 1	-20 to 75°C RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled) Class B Class B
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection Regulatory Approvals CE FCC Safety UL/CUL EMI EMS ATEX Hazardous Location TÜV Freefall Water and Dust Proof	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V- 1.1 A Class B Part 15 sub Class B UL 508 - EN55022 2006, Class I EN61000-4-2 (ESD), C EN61000-4-3 (RS), C EN61000-4-5 (Surge), EN61000-4-6 (CS), C EN61000-4-8 (PFMF), C Class 1, Zone 2, EEX I UL/CUL Class 1, Div. 2 EN 60950-1	reversal B ritteria A, Level 4 riteria A, Level 3 riteria A, Level 3 riteria A, Level 3 riteria A, Level 3 Criteria A, Level 3 Criteria A, Level 5 C IIC (pending)	ending)	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V- 1.1 A	Pitteria A, Level 3 iteria A, Level 3 iteria A, Level 2 criteria A, Level 3 iteria A, Level 3 criteria A, Level 1 -	-20 to 75°C RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled)
Storage Temperature Power Requirements Source of Input Power Input Voltage Power Consumption Burst Protection (EFT) Surge Protection Voltage Reversal Protection Over Current Protection Regulatory Approvals CE FCC Safety UL/CUL EMI EMS ATEX Hazardous Location TÜV Freefall	-40 to 85°C - 12 to 48 VDC 127 mA @ 12 V 4 KV 2 KV Protects against V+/V- 1.1 A Class B Part 15 sub Class B UL 508 - EN55022 2006, Class EN61000-4-2 (ESD), Cr EN61000-4-3 (RS), Cr EN61000-4-4 (EFT), Cr EN61000-4-6 (CS), cr EN61000-4-6 (CS), cr EN61000-4-8 (PFMP), Class 1, Zone 2, EEx n UL/CUL Class 1, Div. 2 EN 60950-1 IEC 60068-2-32	reversal B Irriteria A, Level 4 Iteria A, Level 3 Iriteria A, Level 3 Iriteria A, Level 3 Iriteria A, Level 3 Iriteria A, Level 5 Iriteria A, Level 6 Iriteria A, Level 7 Iriteria A, Level 9 Iriteria A, Lev	ending)	-	140 mA @ 12 V 2 KV 2 KV Protects against V+/V- 1.1 A	Pitteria A, Level 3 iteria A, Level 3 iteria A, Level 2 criteria A, Level 3 iteria A, Level 3 criteria A, Level 1 -	RS-232 port (TxD signal) or power input jack 12 to 48 VDC 20 mA @ 5 V (with termination disabled)