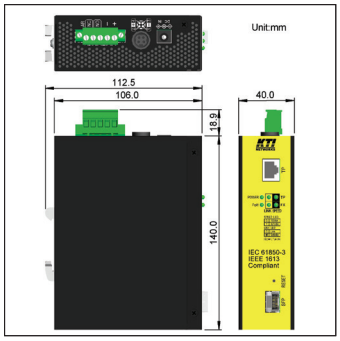
KGC-261-DP-BT/I-Series

IEC 61850-3 Enhanced !

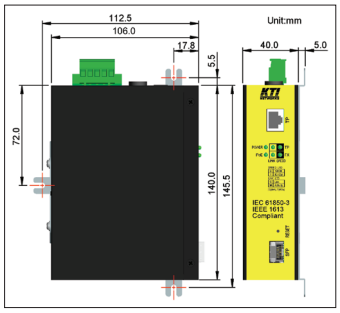
Product Highlights:

- IEC 61850-3 & IEEE 1613 rated
- Tri-speed copper to dual-speed fiber conversion
- Advanced LFPT, OPA, ALS features
- IEEE 802.3bt PoE PSE functionality
- Variety of DC IN options
- Web & SNMP management

DC Input:



Din-Rail Mount Dimension



Panel & Wall Mount Dimension

IEC 61850-3 IEEE 1613 Managed Media Converters with IEEE 802.3bt PSE support

Key Features:

- IEC 61850-3 and IEEE 1613 industrial rated for power substation
- Tri-speed 10/100M/1Gbps copper to dual-speed 100M/1Gbps fiber conversion
- Comply with IEEE 802.3, 802.3u, 802.3ab, 802.3z, 802.3af, 802.3at, 802.3bt standard
- Support full wire speed conversion for Gigabit copper to Gigabit fiber
- Provide dual-speed SFP on fiber port for mounting variety of fiber options
- Provide important LFPT (Link Fault Pass Through) media converter function
- Support Jumbo frame conversion
- Energy Efficient Ethernet (EEE) support
- Alarm events relay output
- Optical Power Alarm (OPA) function
- Auto Laser Shutdown (ALS) function
- Fiber support for multimode, short reach up to long reach single mode fiber, Bi-Di applications
- Web-based configuration management support
- Support SNMP management
- Provide variety of PoE options for different power level applications
- PoE shutdown protection for incompliant PD, disconnection, over-current and short-circuit

Specifications:

Standard	IEEE 802.3u, 802.3ab, 802.3z, 802.1ad, 802.3az, 802.1Q, 802.3af, 802.3at, 802.3bt
Copper Port	Shielded RJ-45, 10/100/1000Mbps, Full/Half duple Auto-negotiation, Auto-MDI/MDI-X
Fiber Port	SFP connector with pre-configured SFP fiber transceiver 100Mbps/1Gbps Full duplex, Auto-negotiation, Far End Fault support
Network Cables	Copper port: Cat.5e recommended or higher up to 100m Fiber port: MMF 50/125µm, 62.5/125µm, SMF 9/125µm
LED Indication	Unit: power status, PoE status Per port: 1G/Link/Activity, 10-100/Link/Activity
Jumbo Frame size	Up to 9.6K bytes
DC TB Input	Flange terminal block: DC+/ DC-/ 3 Relay contacts Rated voltage range: +12 ~ +57VDC
Relay Output	3 dry contacts for NC & NO pairs on DC TB Contact rating: 30VDC/1A or 120VAC/0.5A Alarm events: power failure, configured port link fault, OPA
DC Jack Input	Power jack (Contacts: -D6.3mm, +D2.0mm) Rated voltage range: +12 ~ +48VDC

DC DIN Input	Power DIN, Mini-DIN-4 socket Contact rating: 2.7A 48V Rated voltage range: +12 ~ +48VDC
DC Power	General: +12 ~ +57VDC PoE: +45 ~ +57VDC Polarity reversal protection
Power Consumption	5W max.@55V (Full load without PoE output) 102W max.@55V (Full load with PoE max. output)
Housing	Enclosed metal with no fan
Environment	Operating Temperature: -40°C ~ 75°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Dimension	40 x 106 x 140 mm (WxDxH)
Mounting Support	DIN-Rail, Panel (optional)
MTBF	250K hours min
Management:	
Management	Web-based browser interface, SNMP manager Port Control Operating mode, Flow control, LLDP, PoE control
Packet Filtering	802.1Q tagged packet filtering, Untagged packet filtering
802.1Q VLAN	Ingress 802.1Q tag stripping, Egress 802.1Q tagging (tag insertion) S-tag tagging (802.1ad double tagging)
Maintenance	Restore factory default, reboot, firmware update
SNMP	Trap events: Bootup, Login failure, Port link changes, OPA SNMP Private MIB: DDM, Remote boot, OPA, PoE

PoE Power Levels:

Compliant PD Classes	IEEE Standard			PSE output power max.	Cable power pairs	PD Available power min.
	802.3af	802.3at	802.3bt			
Class 1	V	V	V	5.3W	2	3.84W
Class 2	V	V	V	8.5W	2	6.49W
Class 3	V	V	V	19W	2	13W
Class 4		V	V	36W	4	25.5W
Class 5			V	51W	4	40W
Class 6			V	68W	4	51W
Class 7			V	83W	4	62W
Class 8			V	95W	4	71.3W

Fiber Optical Specifications:

1Gbps	Fiber Port	Wavelength	Tx Power*1	Rx Sens.	Rx Max.	Distance*2
-SX	LC 62.5/125 MMF 50/125 MMF	850nm	-9.5 ~ -4dBm	-18dBm	0Bm	220m 500m
-LX	LC MMF*3 SMF	1310nm	-9.5 ~ -3dBm	-20dBm	-3dBm	550m 10km
-LX70	LC SMF	1550nm	0 ~ +5dBm	-24dBm	-3dBm	70km
-W3510	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-9 ~ -3dBm	-21dBm	-1dBm	10km
-W5310	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm	10km
100Mbps	**Fiber Port**	**Wavelength**	**Tx Power*1**	**Rx Sens.**	**Rx Max.**	**Distance*2**
-FM	LC MMF	1310nm	-20 ~ -14dBm	-31dBm	0dBm	2km
-FS30	LC SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm	30km

∗1 Tx Power data for 62.5/125μm MMF, 9 /125μm SMF
∗2 Reference connection distance
∗3 Mode conditioning patch cord must be used for MMF connection.

Approval:

FCC Class A, VCCI Class A
CE mark Class A
LVD IEC 62368-1 safety
EN 61000-6-4 emission
EN 61000-6-2 immunity
IEC 61850-3 EMC & environment
IEC 60068-2-64 vibration
IEC 60068-2-27 shock 30G test
IEEE 1613 for power substation

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN 61000-6-4	Class A
CE/EMC/EMS	EN 61000-6-2	
ESD Test	IEC 61000-4-2	Contact: +/-6kV Air: +/-8kV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	DC IN: +/-1kV RJ-45: +/-1kV
Surge Immunity	IEC 61000-4-5	DC IN: +/-0.5kV RJ-45: +/-1kV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50/60Hz, 100A/m, 60s 50/60Hz, 1000A/m, 1s
Substation	IEC 61850-3	
EFT/BURST	IEC 61000-4-4	DC IN: +/-4kV RJ-45: +/-4kV(STP)
Surge Immunity	IEC 61000-4-5	DC IN: +/-1kV RJ-45: +/-4kV(STP)
Main Frequency Volt.	IEC 61000-4-16	Signal: 300V
Ripple on DC power	IEC 61000-4-17	10%
DOW Test	IEC 61000-4-18	Power: +/-2.5 Signal: +/-2.5
DC Dips	IEC 61000-4-29	Dips: 60% & 30%, 0.1s Interruption: 100%, 0.05s
Safety	EN 62368-1	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-40°C, 72hrs
Dry Heat Test	IEC 60068-2-2 Bd	+75°C, 30%RH, 72hrs
Damp Heat Test	IEC 60068-2-3 Ca	+75°C, 95%RH, 72hrs
Storage Test	IEC 60068-2-48	-40°C, 96hrs +85°C, 30%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~150Hz, 2.0 g²/Hz
Shock Test	IEC 60068-2-27 Ea	30G

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