14 IEXT101-PH

Long Reach Ethernet & PoE Extender

- *Transmission and Remote Power Feeding up to 800 meters*
- *PoE Power Budget up to 30W*
- *4KV Surge Protection for PoE, UTP*
- *Wide Operating Temperature Range, -40~75°C, for Use in Harsh Environments*
- *EN50121-4, EN61000-6-2, EN61000-6-4, CE and FCC Certified*

IEXT101-PH-L IEXT101-PH-R

Industrial-grade PoE extenders IEX101-PH extend Ethernet transmission distance and IEEE802.3af/at PoE+ output beyond the 100-meter limit of standard Ethernet. Paired devices, local and remote unit, operate in a point-to-point topology over 2- or 4-pair unshielded UTP cables up to 800 meters long. The remote unit is powered by the local unit and is then able to provide PoE output for standard or passive applications. This is the ideal solution to solve the problem of no electricity and save costs, it is designed for harsh environments and can be used in Industrial networks, traffic monitoring, safety automation applications and urban security, smart transportation systems. It is also suitable for many military or utility market applications where environmental conditions exceed commercial product specifications.

Features

- Long distance data transmission and remote power feeding up to 800 meter on 2/4 pair UTP cable (see figure 1)
- Supports standard IEEE802.3af/at or passive PoE devices
- Eliminates the need for any power supply at the remote side
- Quick deployment and easy maintenance

Specifications

Standard	IEEE 802.3	10Base-T
	IEEE 802.3u	100Base-TX
	IEEE 802.3af	PoE
	IEEE 802.3at	PoE+
Hardware Interfaces	IEXT101-PH-L (Local unit) 2-pin Terminal Block for power input connector, 1x RJ45 for LAN 10/100Base-TX Ethernet port, 1x RJ-45 for extension distance and delivery power and communication data to remote unit	
	IEXT101-PH-R (Remote unit) 1x RJ45 for LAN 10/100Base-TX Ethernet and PoE PSE, 1x RJ-45 for long distance receiving power and communication data from local unit	
Dip Switch	IEXT101-PH-L (Local unit)	
	SW 1: Power over line	OFF: Enable, ON: Disable
	SW 2 : Link Fault Pass Through (LFPT)	OFF: Disable, ON: Enable
	SW 3 : Line Speed	OFF: Auto, ON: 10M
	IEXT101-PH-R (Remote unit)	
	SW 1: PoE for PD	OFF: Enable, ON: Disable
	SW 2 : Link Fault Pass Through (LFPT)	OFF: Disable, ON: Enable
	SW 3 : PoE PD mode	OFF: Standard PoE, ON: Passive PoE
LED	IEXT101-PH-L (Local unit)	Power (Green), Delivery Power Range <15W (Amber), Delivery Power Range >15W (Green), LFPT (Amber), LAN Link Active (Green), Line Speed/Link Active 10M (Amber), 100M (Green)
	IEXT101-PH-R (Remote unit)	Power (Green), PoE Power Range for PD <15W (Amber), PoE Power Range for PD >15W (Green), LFPT (Amber), LAN Link Active (Green), Line Speed/Link Active 10M (Amber), 100M (Green)

Data rate	The line speed between IEXT101-PH-L and IEXT101-PH-R will be 10M or 100M that depend on extension length or set by DIP SW. The LAN speed of IEXT101-PH-R is same with line speed (extension port). (Please ref figure 1)
Cable	2 or 4 pair UTP cable Cat.5e, Cat. 6 (See Table 1 for Transmitting rate and PoE power budget by difference length) (Please ref figure 1)
Operating Temperature	-40 ~ 75°C
Storage Temperature	-40 ~ 85°C
Humidity	10% - 95% (non-condensing)
Power Supply	55~57VDC Input power (2pin Removable Terminal Block)
Power Consumption	IEXT101-PH-L : < 3W (Without PoE); 34.5W (With PoE @ 30W)
	IEXT101-PH-R: < 1.5W (Without PoE); 32.5W (With PoE @ 30W)
Housing	Rugged Metal, IP30 Protection and fanless
Dimensions	102.5 x 52 x 25mm (D x W x H)
Weight	175g
Installation Mounting	Wall Mounting
MTBF	1.561.636Hours (IEXT101-PH-L) 1.591.281Hours (IEXT101-PH-R) (MIL-HDBK-217)

Certification

EMC	CE (EN55032, EN55035)
EMI (Electromagnetic Interference)	FCC Part 15 Subpart B Class A,CE
Railway Traffic	EN50121-4
Immunity for Heavy Industrial Environment	EN61000-6-2
Emission for Heavy Industrial Environment	EN61000-6-4
EMS (Electromagnetic Susceptibility) Protection Level	EN61000-4-2 (ESD) Level 3, Criteria B EN61000-4-3 (RS) Level 3, Criteria A EN61000-4-4 (Burst) Level 3, Criteria A EN61000-4-5 (Surge) Level 3, Criteria B EN61000-4-6 (CS) Level 3, Criteria A EN61000-4-8 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A
4KV Surge Protection	Supported for PoE, UTP
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-31
Vibration	IEC 60068-2-6

Extension Distance vs Speed / PoE Power Budget (Table 1)

Cat5e UTP cable

Extension Distance (Meter)	Link Speed (Mbps)	Deliver PoE Power Budget (Maxium Watt)	
		4 Pair UTP	2 Pair UTP
100	100	31.4	28
200	100	29.6	22.4
300	100	27.6	15.2
400	100	24.7	12.2
500	100	20.3	9.8
600	100	17.2	7.9
700	10	15	7.1
800	10	13.2	6.1

Cat6 UTP cable

Extension Distance (Meter)	Link Speed (Mbps)	Deliver PoE Power Budget (Maxium Watt)	
		4 Pair UTP	2 Pair UTP
100	100	32.2	28.8
200	100	30.5	25.5
300	100	28.7	16.7
400	100	27	14.7
500	100	24.1	11.8
600	100	20.5	9.9
700	10	17.7	8.7
800	10	16	7.5

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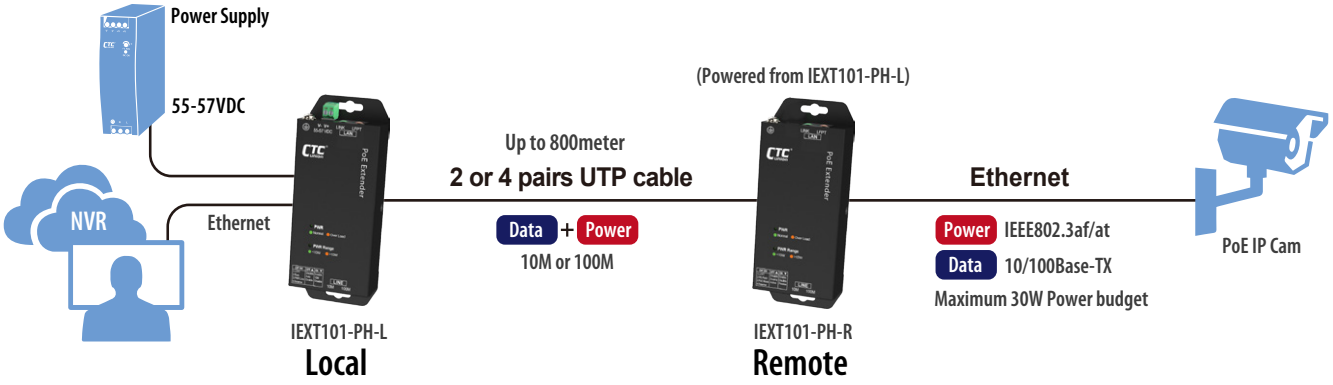
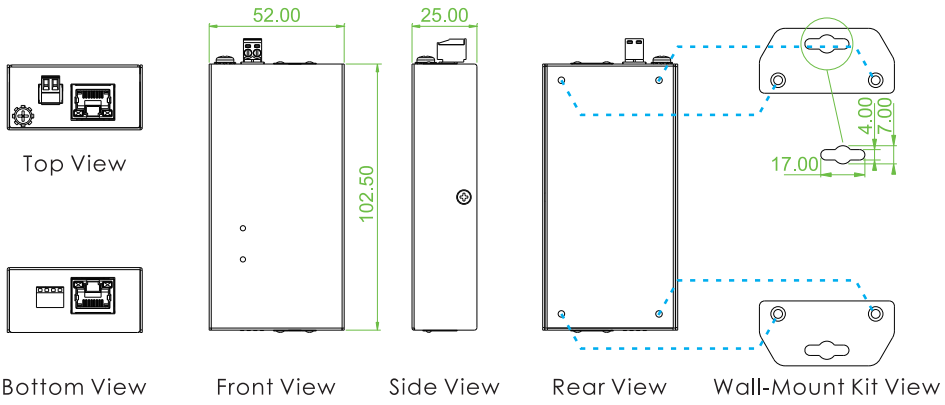
Application

Figure1 : PoE Extending Solution for IP Surveillance Systems

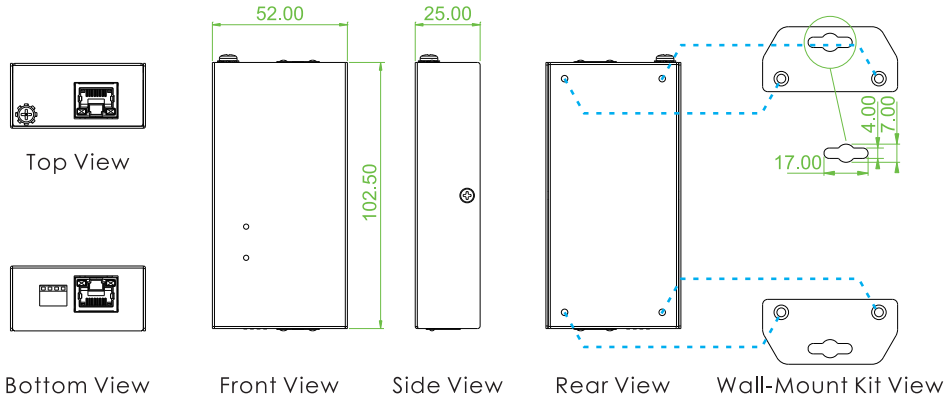


Dimensions

▶ IEXT101-PH-L



▶ IEXT101-PH-R



Ordering Information

Model Name	Ethernet port (Local unit)	Line port (Extension port)	Ethernet port with PoE (Remote unit)		Power Input	Certification		
	10/100 Base-TX	10/100M (Up to 800meter)	10/100Base-TX	Power Budget for PD		EN50121-4	EN61000-6-2 EN61000-6-4	CE FCC
IEXT101-PH-L	1	1			55~57VDC	V	V	V
IEXT101-PH-R		1	1	5W~30W	Powered from IEXT101-PH-L	V	V	V

Optional Accessories

■ Industrial Power Supply

NDR-120-48	Industrial Power, Input 90 ~ 264VAC/127 ~ 370VDC, Output 48VDC, 120W, -20 ~ 70°C

Note: Please adjust the NDR-120-48 output voltage to 55VDC for better performance.