

IEXT101-PH

Long Reach Ethernet & PoE Extender

NEW



IEXT101-PH-L

IEXT101-PH-R

- 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



CTC's Industrial Grade Ethernet & PoE Extender can extend data and IEEE802.3at PoE+ beyond the standard 100 meters limitation of standard Ethernet. The paired units work in a point-to-point topology over 2 or 4 pair unshielded twisted pair (UTP) cabling up to 800 meters.

The local unit is provided with 55-57VDC and feeds both power and data to the remote unit. The remote unit is then able to provide 10/100Base-TX Ethernet and up to 30 watts via 802.3af/at standard or may be provisioned for 'passive PoE' i.e., always on, for non-standard PoE applications. These devices are ideal when there is no power available at the remote side or where providing power at the remote is difficult or expensive. These products are particularly designed for harsh environments, such as industrial networking, traffic surveillance, security automation applications, IP surveillance, city security, intelligent transportation systems (ITS) and are 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

Hardware Standard Interfaces	IEEE 802.3	10Base-T
	IEEE 802.3u	100Base-TX
	IEEE 802.3af	PoE
	IEEE 802.3at	PoE+
Network Connector	IEXT101-PH-L (Local unit)	
	2 pin Terminal Block for power input connector 1 RJ45 for LAN 10/100Base-TX Ethernet port 1 RJ-45 for extension distance and delivery power and communication data to remote unit	
Dip Switch	IEXT101-PH-R (Remote unit)	
	1 RJ45 for LAN 10/100Base-TX Ethernet and PoE PD, 1 RJ-45 for long distance receiving power and communication data from local unit	
LED	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
	IEXT101-PH-L (Local unit)	
	Power (Green) Delivery Power Range <15W (Amber), >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), >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°C to 75°C	
Storage Temperature	-40°C to 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 25 mm (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	
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	

12

Industrial Ethernet & PoE Extender IEXT101-PH

Extension Distance vs speed /PoE power budget

Cat5e UTP cable

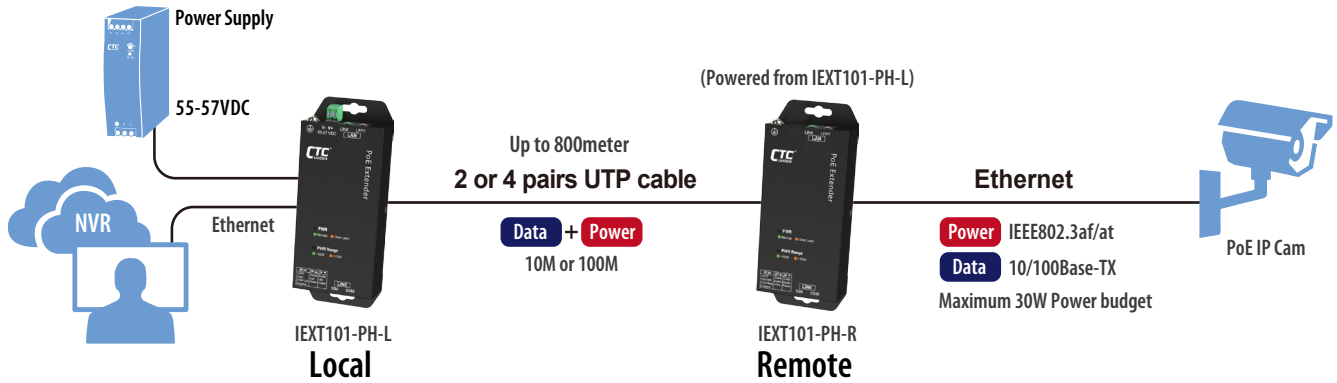
Extension Distance (Meter)	Link speed (Mbps)	Deliver PoE Power budget (maxium Watt)	
		4 Pair UTP	2 Pair UTP
100	100	31.4	28
200	100	29.6	22.4
300	100	27.6	15.2
400	100	24.7	12.2
500	100	20.3	9.8
600	100	17.2	7.9
700	10	15	7.1
800	10	13.2	6.1

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

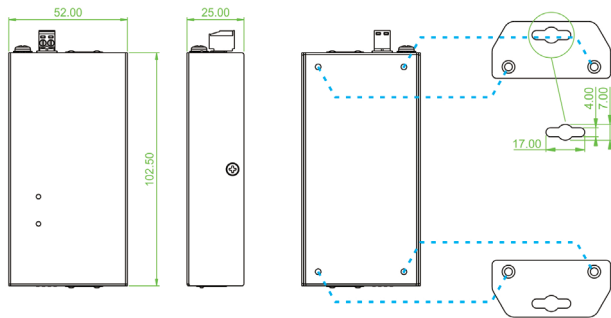
Application

► Figure1 : PoE Extending Solution for IP Surveillance Systems

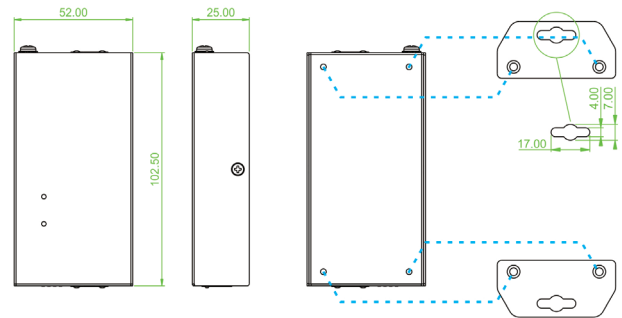


Dimensions

IEXT101-PH-L



IEXT101-PH-R



Front View Side View Rear View Wall-Mount Kit View Front View Side View Rear View Wall-Mount Kit View

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 (Upto 800meter)	10/100Base-TX	Power Budget for PD		CE	FCC
IEXT101-PH-L	1	1			55~57VDC	V	V
IEXT101-PH-R			1	5W~30W	Powered from IEXT101-PH-L	V	V

Package List

IEXT101-PH-L

- 1 local unit IEXT101-PH-L device
- 2 pin terminal block
- 2 pcs wall mount bracket and screw

IEXT101-PH-R

- 1 remote unit IEXT101-PH-R device
- 2 pcs wall mount bracket and screw

Note: A complete link requires an IEXT101-PH-L (local) unit and an IEXT101-PH-R (remote) unit.

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.