

MTR-PCU Series

ezPLC

■ Phase Coupler For PLC

This is the device that enables inter-phase communication by coupling the communication signal among the electronic phases. This is power line communication parts that block voltage of 50~60 Hz, allowing only the passing through of the power line communication signal.

Advantage

- Delivery of the communication signal among different phases
- BNC communication port attachment that can link with the transmission device and analysis device for power line communication
- Able to evaluate the motion characteristics of the device for power line communication
- Broadband coupling frequency characteristics : 90 kHz ~ 40 MHz
- Low insertion loss : -3 ± 2 dB
- Able to apply to diverse power systems : 1 phase 2 wire, 3 phase 3 wire, 3 phase 4 wire



MTR-PCU-WT1



MTR-PCU-WS1B



MTR-PCU-WK1B

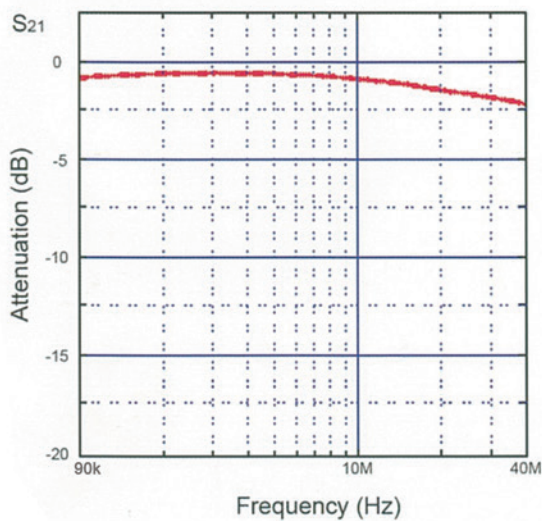
Specification

Model		MTR-PCU-W Series		
		PCU-WS	PCU-WK	PCU-WT
Application		1 Phase 2 Wire	3 Phase 3 Wire	3 Phase 4 Wire
Frequency		90 kHz ~ 40 MHz		
Attenuation (dB)		-3 ± 2		
Dimension (mm) L x W x H		105 x 53 x 32		
Wires Length (m)		1		
Option	Connect Port	BNC or TNC		

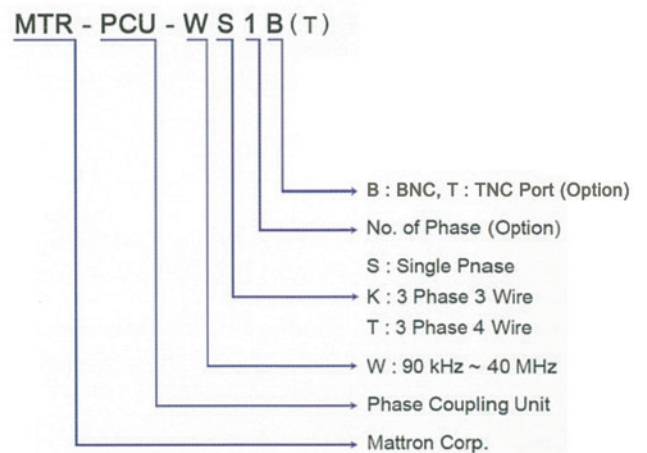
MTR-PCU Series

ezPLC

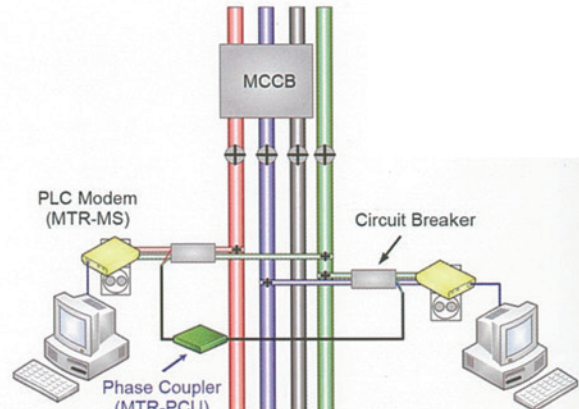
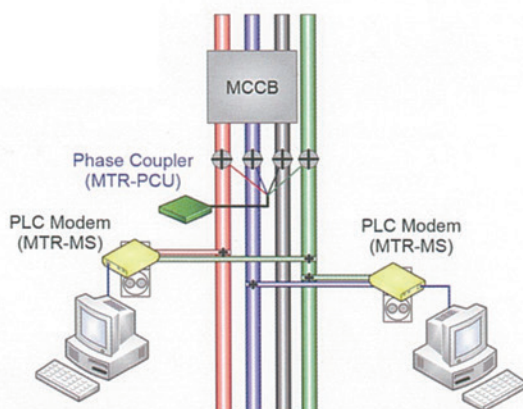
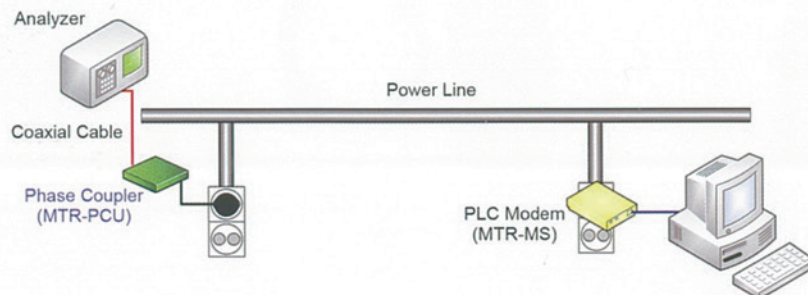
Property



Ordering Code System



Application



MTR-BF Series

ezPLC

■ Blocking Filter For PLC

Parts for the power line communication that blocks transmission of communication signal to other network via power line in case of the network developed by using power line communication and that block infiltration of other network's communication signal and noise

■ Advantage

MTR-BF-000 L series

- Able to apply to low speed (90 ~ 450 kHz) power line communication
- High attenuation and high impedance of communication frequency bandwidth
- Applicable regardless of PLC modem type
- Compact size

MTR-BF-000 H series

- Applicable to high speed (1.7 ~ 30 MHz) power line communication
- Applicable to diverse power systems : 1phase 2wire, 3phase 3wire, 3phase 4wire
- Applicable regardless of the PLC modem type
- Easy installation



MTR-BF-S30H



MTR-BF-T60H



MTR-BF-S30L



MTR-BF-T100L-A

■ Specification

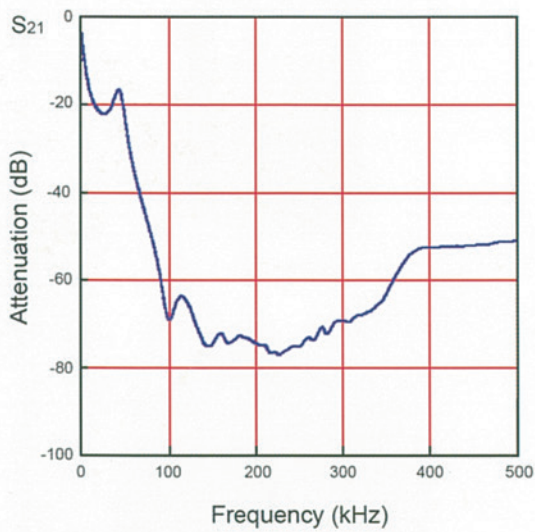
Model	MTR-BF H Series				MTR-BF L Series			
	BF-S30H	BF-S60H	BF-K60H	BF-T60H	BF-S30L	BF-S60L-D	BF-S100L-D	BF-T100L-A
Application	1 Phase 2 Wire		3 Phase 3 Wire	3 Phase 4 Wire	1 Phase 2 Wire			3 Phase 4 Wire
Max. Current (A)	30	60	60	60	30	60	100	100
Frequency	1.7 ~ 30 MHz				90 ~ 450 kHz	110 ~ 140 kHz		
Attenuation (dB)	-50 ± 5		-40 ± 5		-50 ± 5	-45 ± 5	-45 ± 5	-40 ± 5
Rated Voltage (V _{AC})	< 220		< 380		< 220	< 220	< 250	< 380
Dimension (mm) L x W x H	105x60x50		130x80x75		105x60x50	115x70x45	160x70x60	173x118x60
Operating Temp. (°C)	-40 ~ +80							

MTR-BF Series

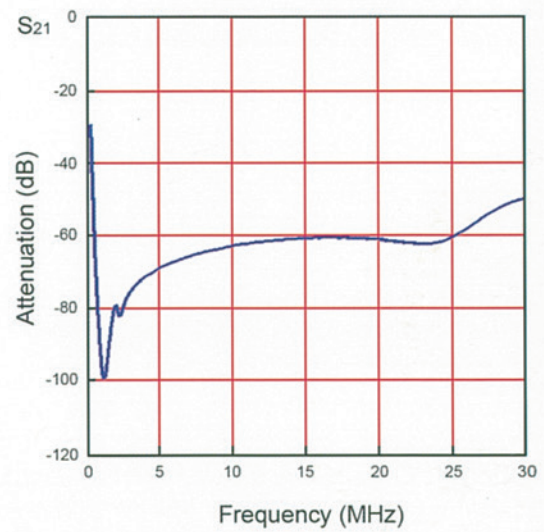
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Property

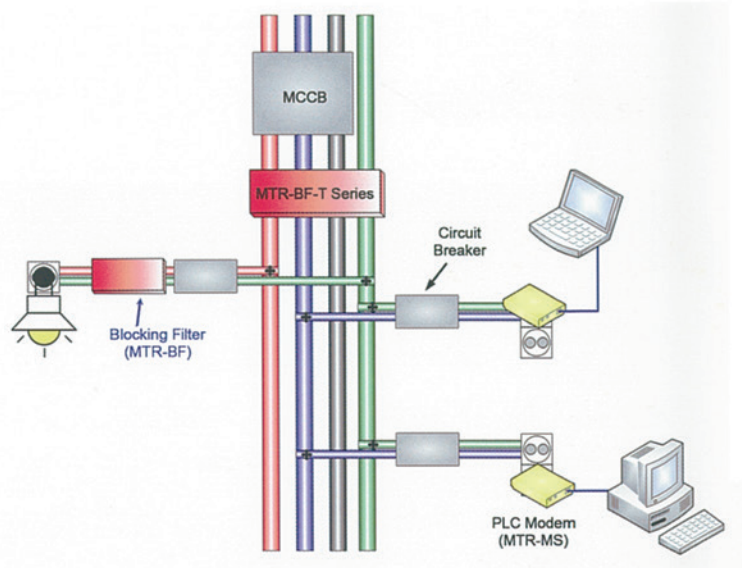
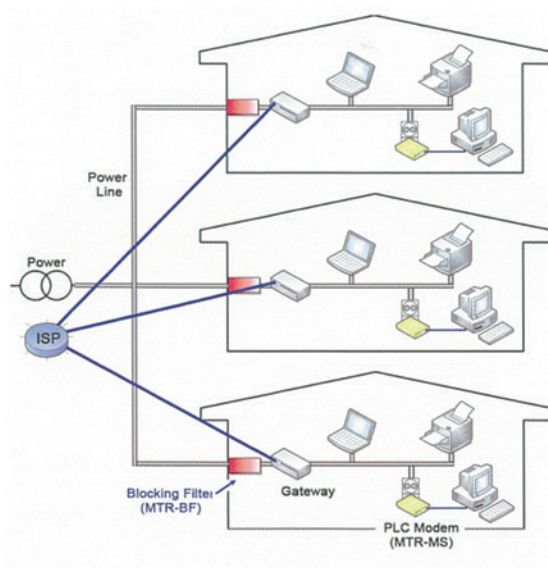
MTR - BF -OOL Series



MTR - BF -OOOH Series



Application



MTR-ICU Series

ezPLC

■ Inductive Coupler For PLC

Inductive Coupler for power line communication is the part that plays the role of selecting the communication signal from power line to transmit to the modem or for including communication signal in the power line. Parts for power line communication that enables Internet and home network by selecting only the communication signal on the power line without connecting to the power line directly and by getting conjoined with the power line exterior

■ Advantage

- Easy installation and superb safety compared to contact type coupler
- Able to use regardless of the voltage, and can be applied to both low speed / high speed communication
- Applicable to all the power line communication network systems and solutions
: Automatic Meter Reading, power line monitoring and control system, home networking, vessel networking and others



MTR-ICU-H56



MTR-ICU-H34



MTR-ICU-H45



MTR-ICU-L98

■ Specification

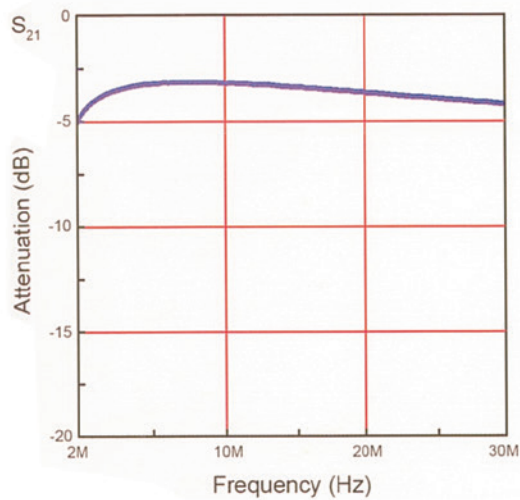
Model	MTR-ICU-H Series					MTR-ICU-L Series	
	ICU-H34	ICU-H45	ICU-H52	ICU-H56	ICU-H98	ICU-L60	ICU-L98
Dimension (mm) I.D x O.D x H	34x73x80	45x95x85	52x98x100	56x111x105	98x146x65	60x115x105	98x146x65
Weight (kg)	0.7	1.3	1.9	1.9	1.9	2.2	1.9
Attenuation (dB)	-4 ± 2					-9 ± 2	
Frequency	1.7 ~ 30 MHz					90 ~ 450 kHz	
Max. Current (A)	100	250	250	300	100	300	100
Connector	BNC or TNC						
Operating Temp.(°C)	-40 ~ + 80						
Caution	Ues only on insulated cable						

MTR-ICU Series

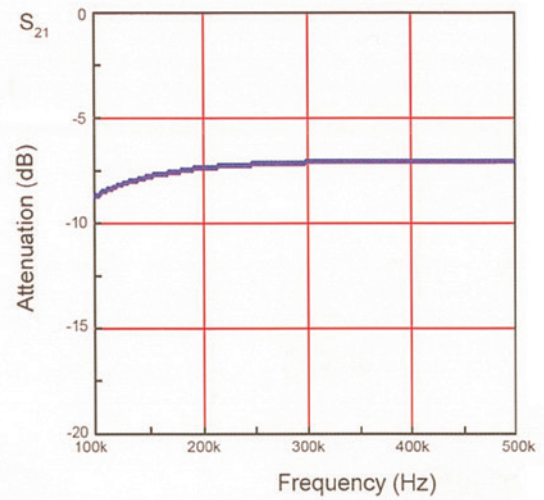
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Property

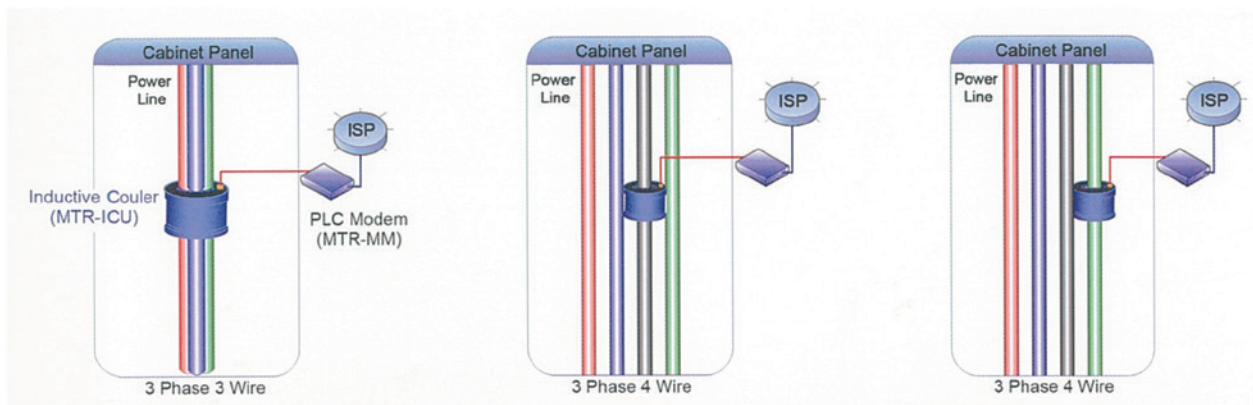
MTR - ICU - H Series



MTR - ICU - L Series



Application



MTR-SPM Series

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Serial Modem For PLC

Serial modem for power line communication is the converter that converts RS232 / 422 / 485 serial communication data into power line communication method.

Able to communicate with the serial equipment by using installed power line without requiring separate communication railing work.

Moreover, able to transmit ethernet data besides serial data by using power line.

Advantage

- Support for converting of diverse methods
 - Serial data ↔ PLC data
 - Ethernet data ↔ PLC data
 - Ethernet data ↔ serial data
- Communication with enabled with existing power line without requiring a separate communication line.
- Easy to install and to use at the industrial sites by attaching onto DIN rail.



MTR-SPM-D200A

Specification

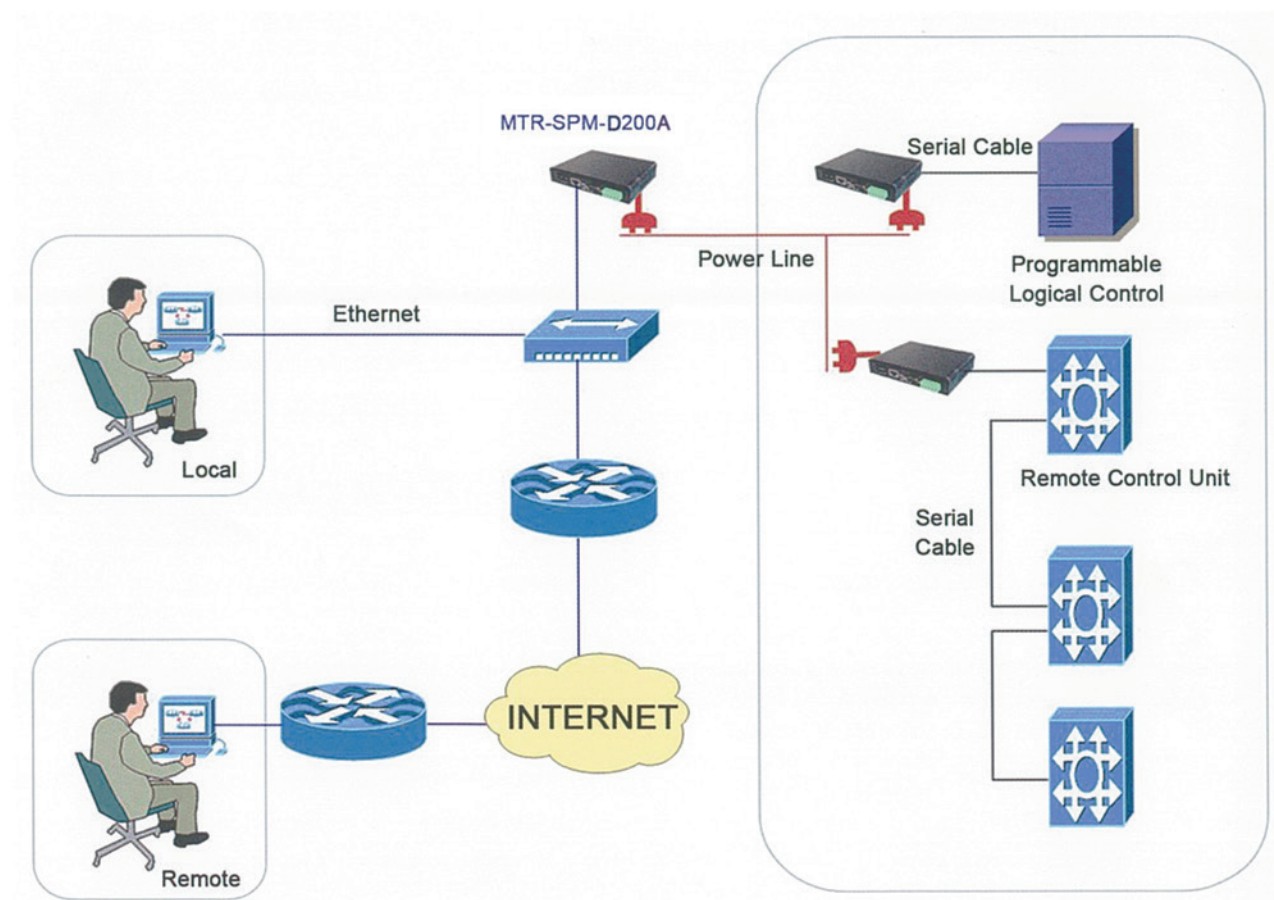
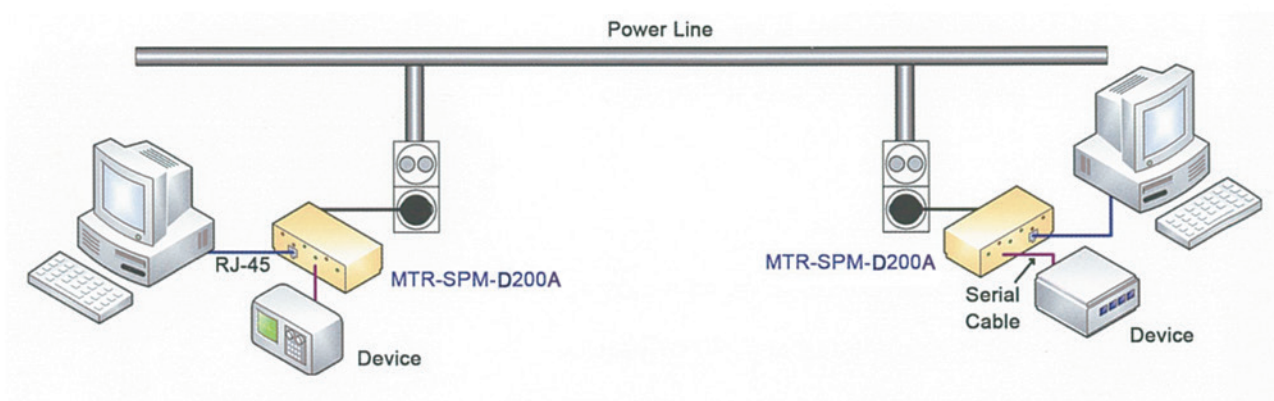
Serial Port			
Interface	RS - 232 / RS - 422 / RS - 485 / Zigbee	Signals	RS - 232 : TxD, RxD, RTS, CTS, GND
Connector	DB9, Terminal Block		RS - 422 : TxD+, TxD-, RxD+, RxD-, GND
Baud Rate	110 bps to 921.6 kbps		RS - 485 : TRxD+, TRxD-, GND
Data Bits	5, 6, 7, 8	Ethernet Port	
Stop Bits	1, 2	Standard	IEEE 802.3u (10/100 Base-T)
Flow control	None, RTS / CTS, Xon / Xoff	Connector	RJ-45 UTP-Cat.5

PLC (Power Line Communication)		Hardware	
Payload Speed	Up to 198 Mbps OFDM@1024QAM	LED	COM, ETH, ALC, PWR
MAC Throughput	Max. 120 Mbps	Management	Web Management, Console
Coverage	Up to 200 m	Dimension	200 X 120 X 40 mm
Frequency	2 ~34 MHz	Power Consumption	Max. 5.5 W
MAC	CSMA / CA	Standard	IEEE802.3u, EIA/TIA RS232 / 422 / 485
Standard	OPERA	Reset	Reset to Factory default

MTR-SPM Series

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Application



MTR-Modem Series

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■ Modem For PLC

Modem for power line communication is the device that enables Internet and home network by using plug at home or office without requiring exclusive line. High speed power line network can be established easily at home or SOHO environment by using power line

Master modem (MTR - MM series)

Attach interface that can link coupling unit and communication device

Slave modem (MTR - MS series)

Plug & Play method



MTR-MM-D200



MTR-MS-D200

I Advantage

- Support for up to 200 Mbps speed
- Easy installation : Installation completed with merely Plug & Play method and Plug- In
- Superb scalability : Up to 16 modems can be used simultaneously



MTR-MM-D200-A

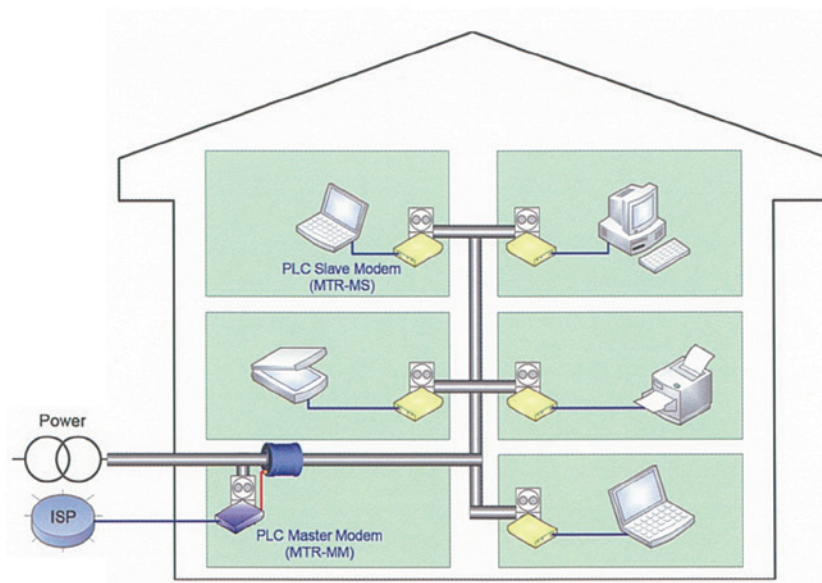
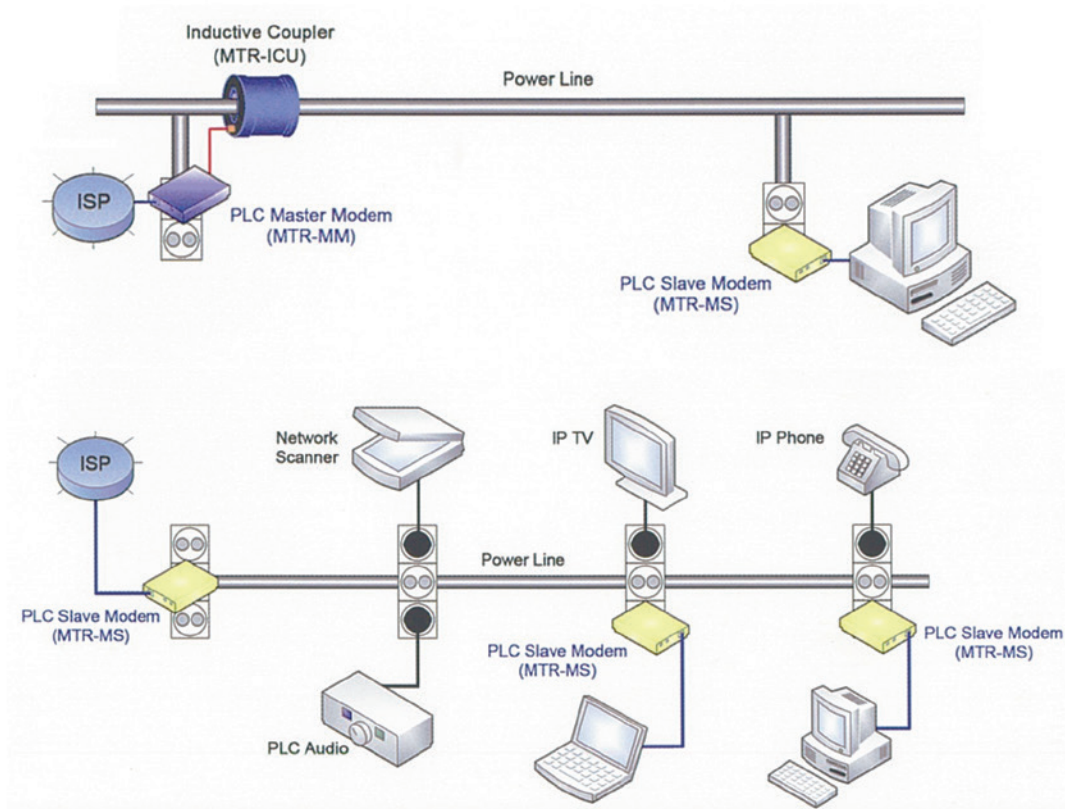
I Specification

Model	MTR-MM Series		MTR-MS Series
	MM - D200-A	MM - D200	MS - D200
PHY Rate (Mbps)	200	200	200
Frequency (MHz)	2 ~ 34	2 ~ 34	2 ~ 34
Power Consumption	7 W	5 W	5 W
Connect Port	BNC Port × 1 ea Ethernet Port : RJ 45 × 2 ea Console Port : 1Port (Connector Type : D-SUB9)	BNC Connector × 1 ea Ethernet Port : RJ 45 × 1 ea	Ethernet Port : RJ 45 × 1 ea
Power Supply	85 ~ 265 V _{AC} , 50/60 Hz		
Operating Temp. (°C)	-20 ~ 70		
Humidity (%)	10 ~ 95		
Dimension (mm) L x W x H	166 x 185 x 40	145 x 110 x 32	145 x 110 x 32

MTR-Modem Series

ezPLC

Application

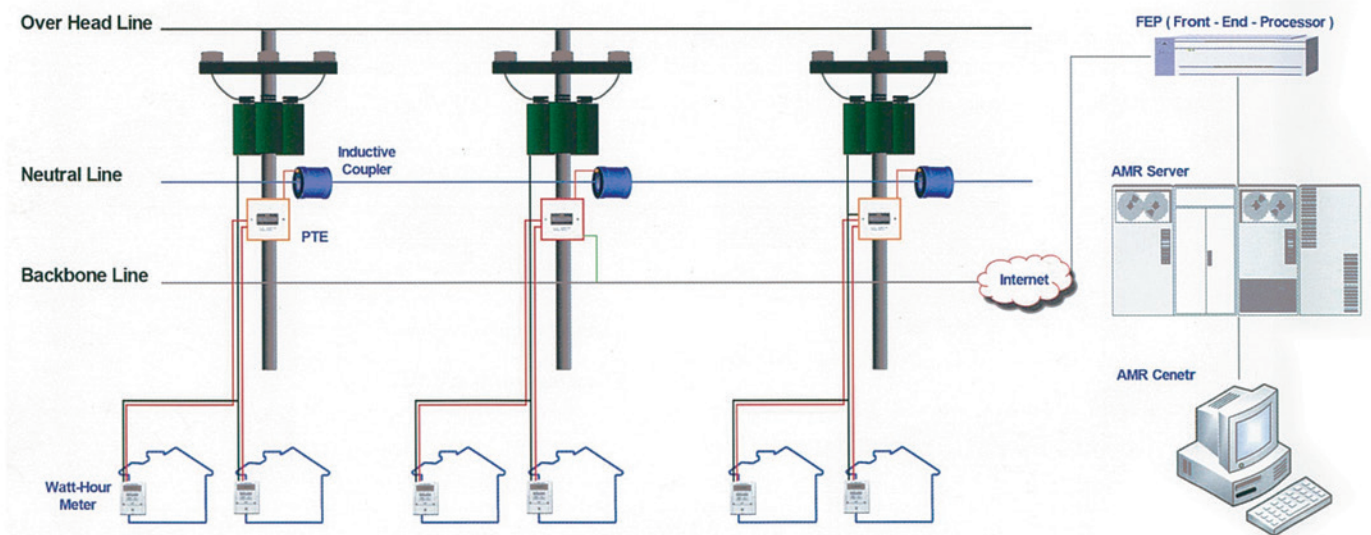


ezPLC Solution

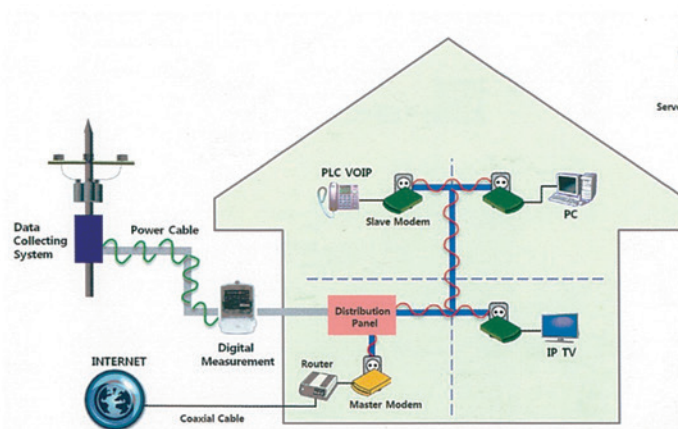
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■ Advanced Metering Infrastructure(AMI)

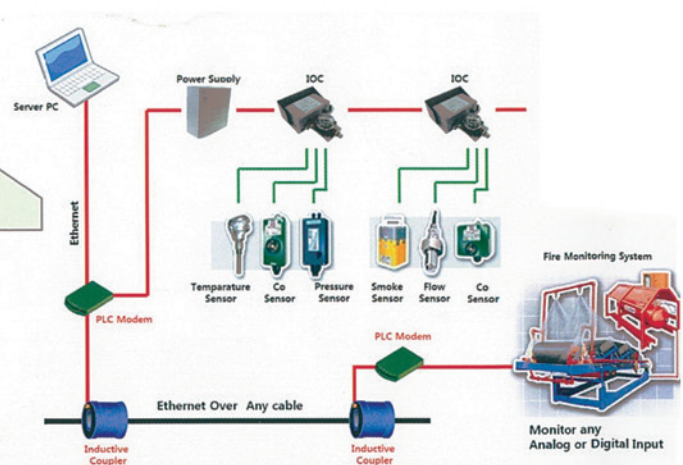
- Meter information can be collected, read and managed remotely without visiting in person
- Applicable to waterworks · gas · hot water system / effective data management, economic cost



■ Internet & VoIP Services



■ Mining's Network

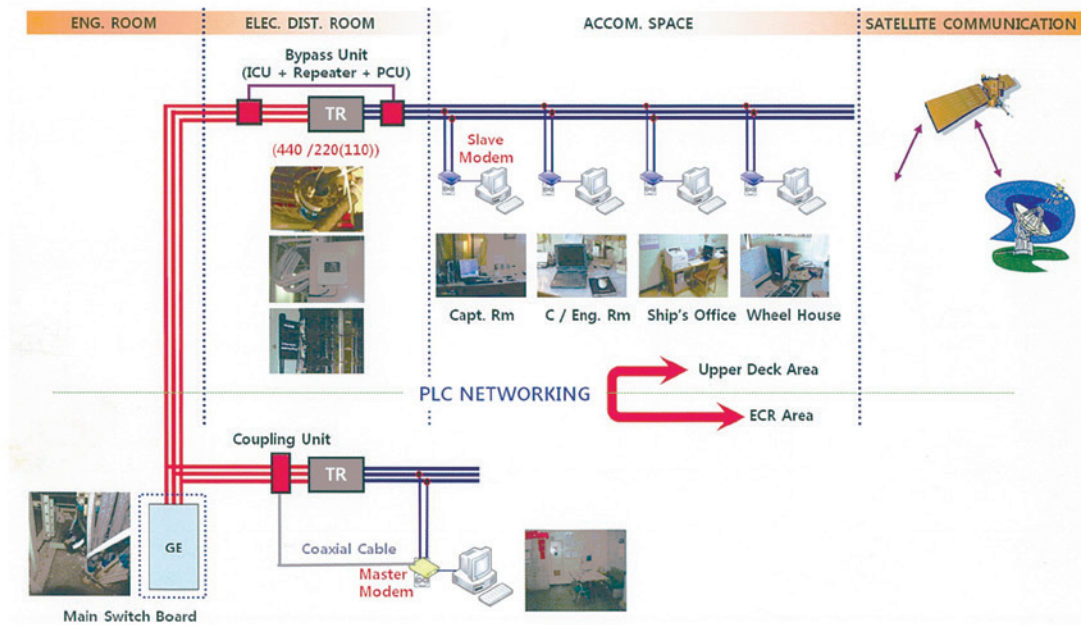


ezPLC Solution

ezPLC

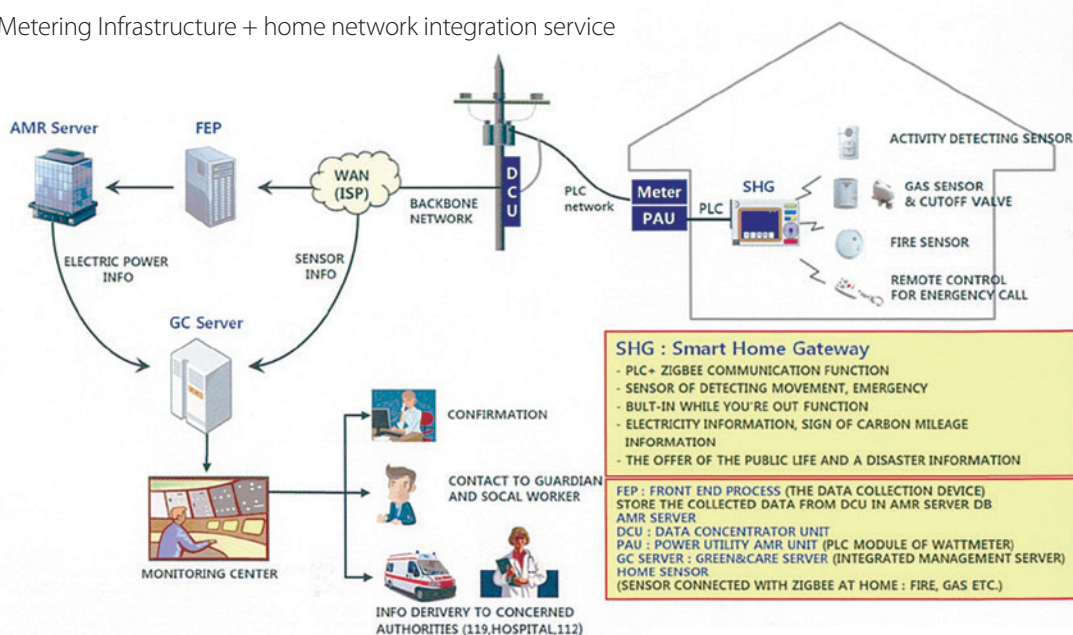
■ Ship Area Network(SAN)

■ Installation enabled without blocking power / short installation time / stable communication



■ Smart Grid

■ Advanced Metering Infrastructure + home network integration service



MTR-AMI-ICU Series

ezPLC

■ Inductive Coupler for AMI

Inductive Coupling device that ensures effective operation of the Advanced Metering Infrastructure(AMI) system by utilizing power line communication. There are two types of Non-contact type coupler for AMI.

Coupler for lead-in wire

Device that resolves communication defect by reinforcing against signal decrease due to diverse noises and branches at the Automatic Meter Reading field

Coupler for neutral line

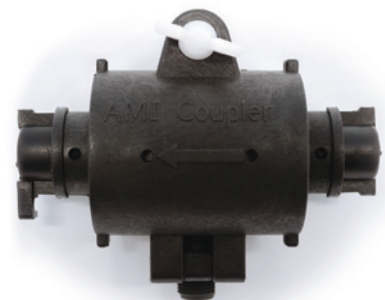
Device that enables communication between Master DCU and Slave DCU by using neutral line



Coupler for lead-in wire (MTR-AMI-H17)

■ Advantage

- Small and superb communication
- Applicable to diverse power line specs
- Easy installation and superb safety
- Optimized for the KEPCO's Automatic Meter Reading system specs
- Coupler for neutral line can be used outdoors



Coupler for neutral line (MTR-AMI-H14)

■ Specification

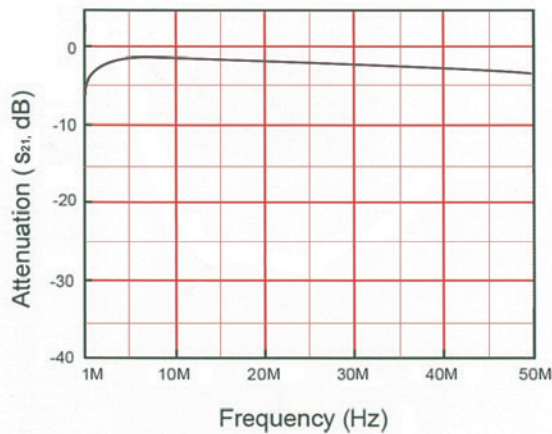
Product Name	Coupler for neutral line	Coupler for lead-in wire
Model	MTR-AMI-H14	MTR-AMI-H17
Dimension (mm)	14×60×90	17×40×50
Weight (g)	240	210
Attenuation (dB)	- 6 ± 2	- 6 ± 2
Frequency (MHz)	2 ~ 30	2 ~ 30
Max. Current (A)	50	50
Operation Temp (°C)	- 40 ~ + 80	- 40 ~ + 80
Note	For outdoor	Use only on insulated cable

MTR-AMI-ICU Series

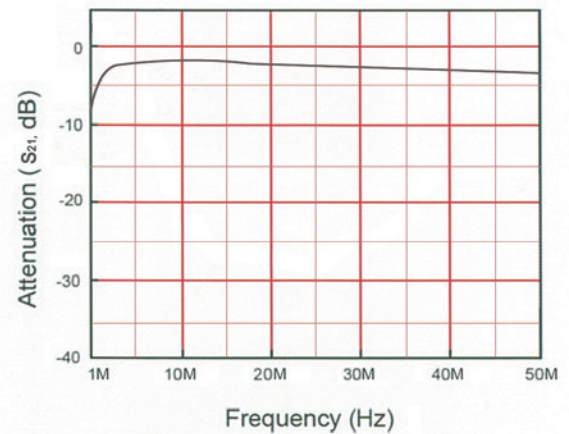
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Property

Coupler for neutral line(MTR-AMI-H14)

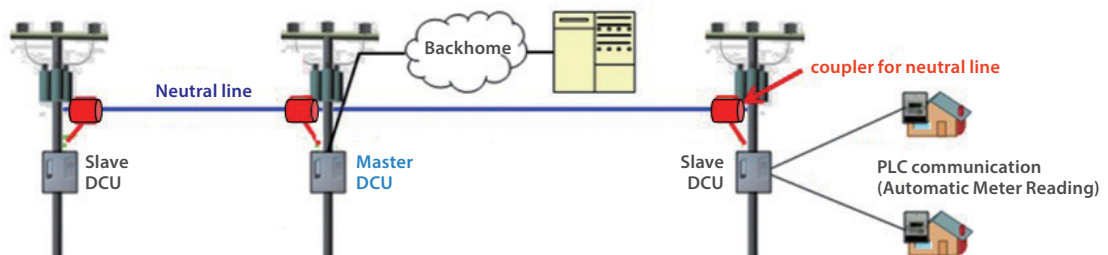


Coupler for lead-in wire(MTR-AMI-H17)

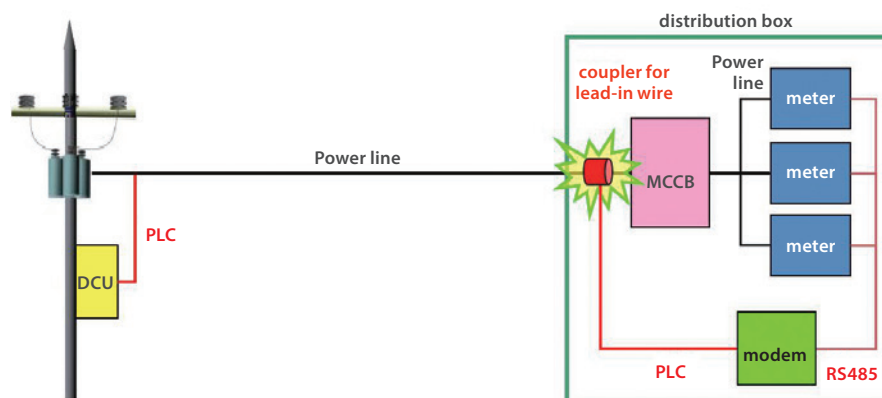


Application

Coupler for neutral line



Coupler for lead-in wire



MTR-PCU Series

ezPLC

■ 电力线通信相间耦合器

一种可以耦合电力线相间通信信号,以实现相间通信的设备。
该设备为切断 50~60Hz 的使用电压,只通过电力线通信信号的电力线通信设备。

■ 特点

- 传递其他相 (phase) 之间的通信信号
- 设有BNC 通信端口,能够与电力线通信收发装置及分析设备进行联系
- 可以评价电力线通信设备的动作特性
- 宽带耦合频率特性: 90 kHz ~ 40 MHz
- 较低的插入损失: -3 ± 2 dB
- 可应用于各种电力系统: 单相、三相三线、三相四线



MTR-PCU-WT1



MTR-PCU-WS1B



MTR-PCU-WK1B

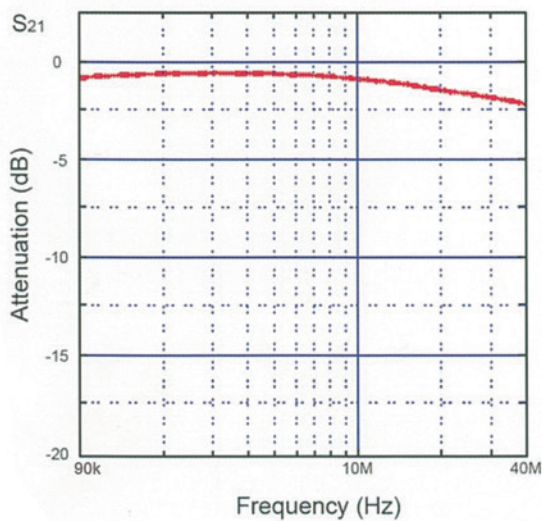
■ 规格参数

Model		MTR-PCU-W Series		
		PCU-WS	PCU-WK	PCU-WT
Application		1 Phase 2 Wire	3 Phase 3 Wire	3 Phase 4 Wire
Frequency		90 kHz ~ 40 MHz		
Attenuation (dB)		-3 ± 2		
Dimension (mm) L x W x H		105 x 53 x 32		
Wires Length (m)		1		
Option	Connect Port	BNC or TNC		

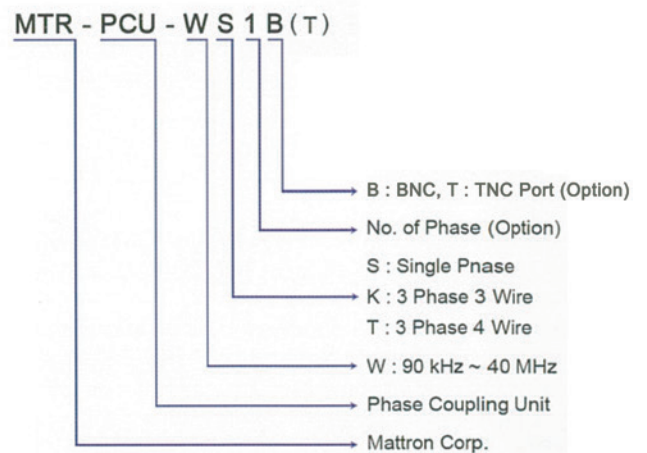
MTR-PCU Series

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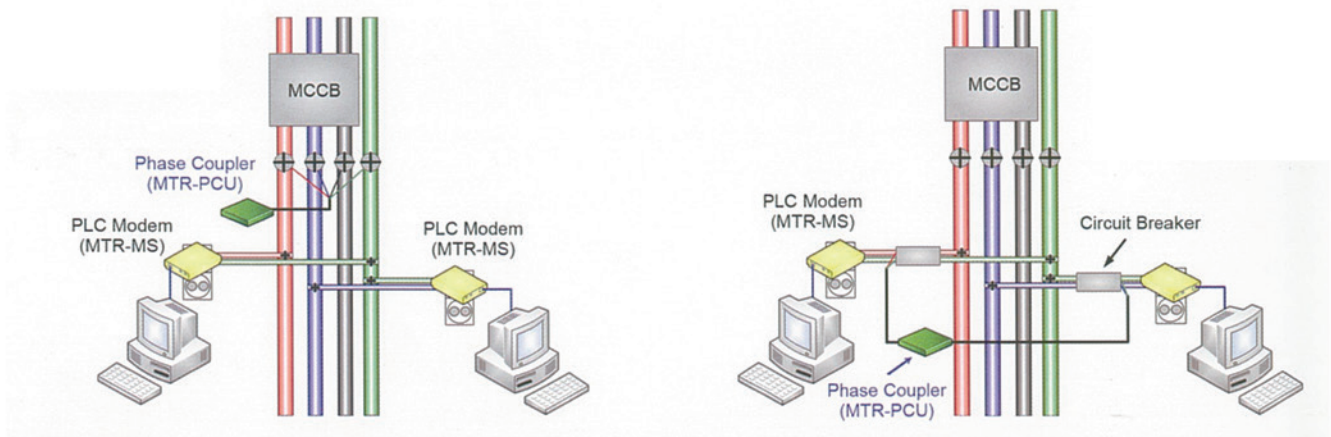
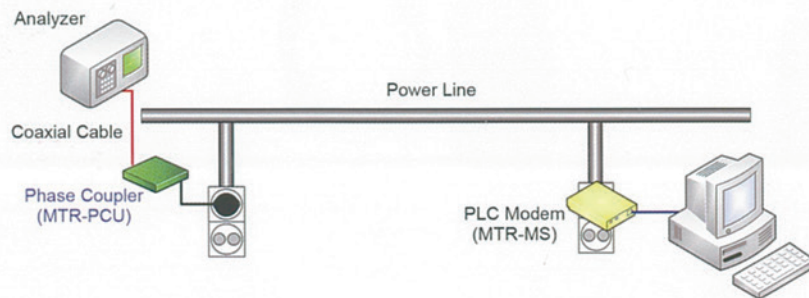
特性



Ordering Code System



应用



MTR-BF Series

ezPLC

■ 电力线通信阻塞滤波器

在利用电力线通信构建的网络上,阻止通信信号通过电力线传输到其他网络,同时阻止其他网络的通信信号及通信干扰流入的电力线通信元件

■ 特点

MTR-BF-000 L series

- 可用于低速 (90 ~ 450 kHz) 电力线通信
- 高衰减率及通信频段高阻抗
- 任何调制解调器均可使用
- 尺寸紧凑

MTR-BF-000 H series

- 可用于高速 (1.7 ~ 30 MHz) 电力线通信
- 适用于各种电力系统: 单相、三相三线、三相四线
- 任何调制解调器均可使用
- 安装容易



MTR-BF-S30H



MTR-BF-T60H



MTR-BF-S30L



MTR-BF-T100L-A

■ 规格参数

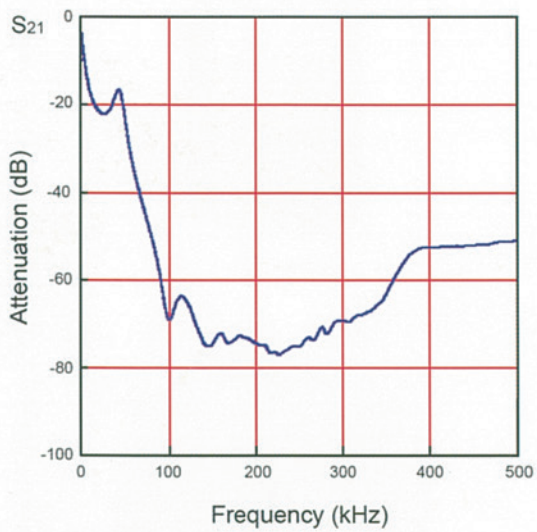
Model	MTR-BF H Series				MTR-BF L Series			
	BF-S30H	BF-S60H	BF-K60H	BF-T60H	BF-S30L	BF-S60L-D	BF-S100L-D	BF-T100L-A
Application	1 Phase 2 Wire		3 Phase 3 Wire	3 Phase 4 Wire	1 Phase 2 Wire			3 Phase 4 Wire
Max. Current (A)	30	60	60	60	30	60	100	100
Frequency	1.7 ~ 30 MHz				90 ~ 450 kHz	110 ~ 140 kHz		
Attenuation (dB)	-50 ± 5		-40 ± 5		-50 ± 5	-45 ± 5	-45 ± 5	-40 ± 5
Rated Voltage (V _{AC})	< 220		< 380		< 220	< 220	< 250	< 380
Dimension (mm) L x W x H	105x60x50		130x80x75		105x60x50	115x70x45	160x70x60	173x118x60
Operating Temp. (°C)	-40 ~ +80							

MTR-BF Series

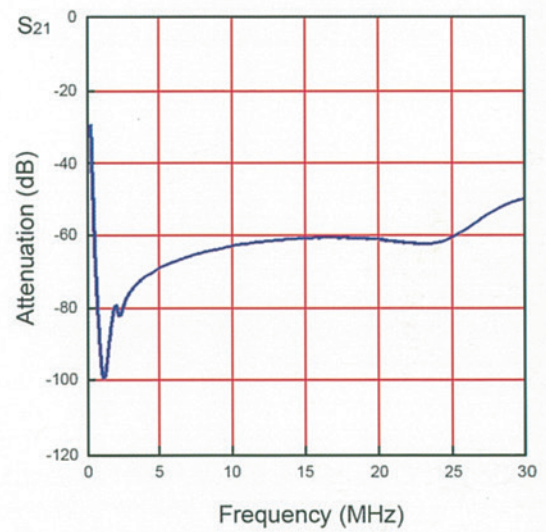
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特性

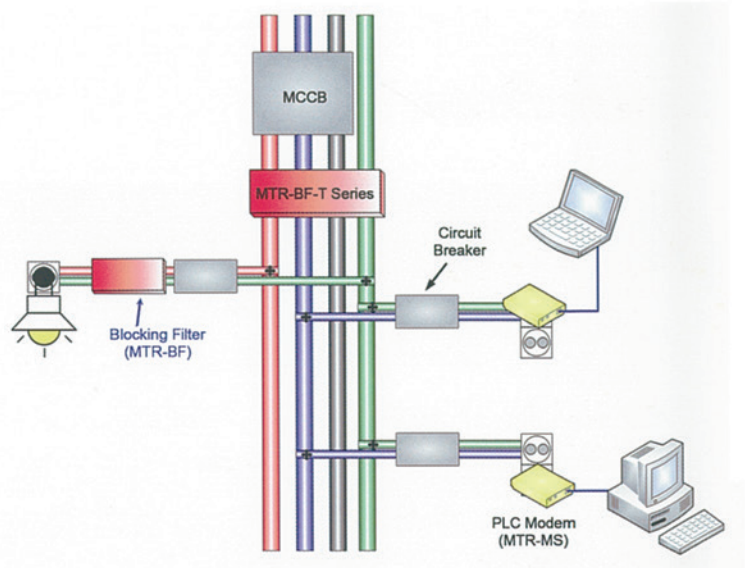
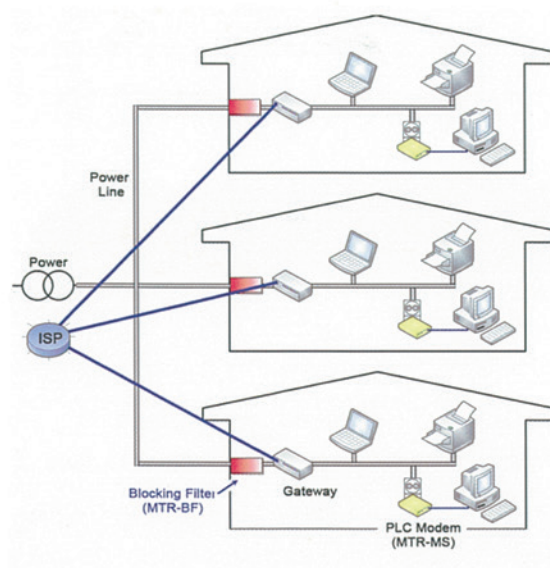
MTR - BF -OOL Series



MTR - BF -OOOH Series



应用



MTR-ICU Series

ezPLC

■ 非接触式电力线通信耦合器

非接触式电力线通信耦合器是一种电力线通信元件，具有筛选通信信号并传到调制解调器，或者在电力线上载波通信信号的作用，不直接连接电力线，而连接到电力线外部，只筛选电力线的通信信号来实现互联网和家庭网络

■ 特点

- 相比接触式耦合器，更容易安装，安全性优异
- 无论电压大小均可使用，低速/高速通行均可使用
- 适用于所有电力线通信网络系统及解决方案
：远程抄表、电力线监控及控制系统、家庭网络、船舶网络等



MTR-ICU-H56



MTR-ICU-H34



MTR-ICU-H45



MTR-ICU-L98

■ 规格参数

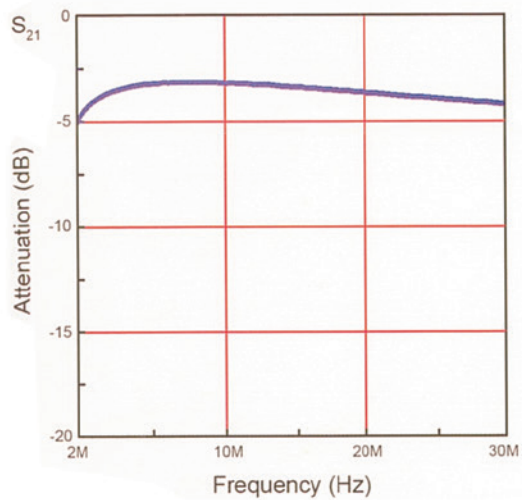
Model	MTR-ICU-H Series					MTR-ICU-L Series	
	ICU-H34	ICU-H45	ICU-H52	ICU-H56	ICU-H98	ICU-L60	ICU-L98
Dimension (mm) I.D x O.D x H	34x73x80	45x95x85	52x98x100	56x111x105	98x146x65	60x115x105	98x146x65
Weight (kg)	0.7	1.3	1.9	1.9	1.9	2.2	1.9
Attenuation (dB)	- 4 ± 2					- 9 ± 2	
Frequency	1.7 ~ 30 MHz					90 ~ 450 kHz	
Max. Current (A)	100	250	250	300	100	300	100
Connector	BNC or TNC						
Operating Temp.(°C)	-40 ~ + 80						
Caution	Ues only on insulated cable						

MTR-ICU Series

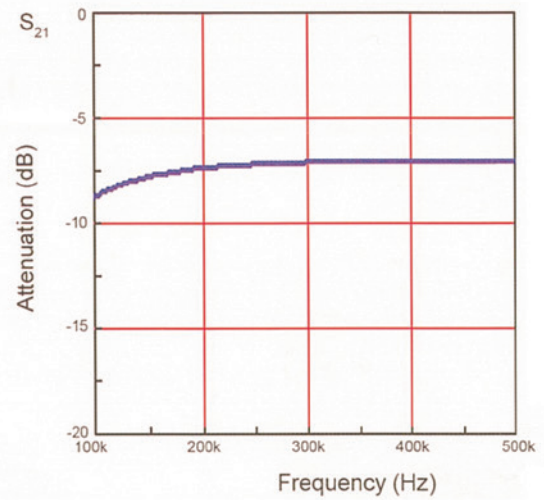
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特性

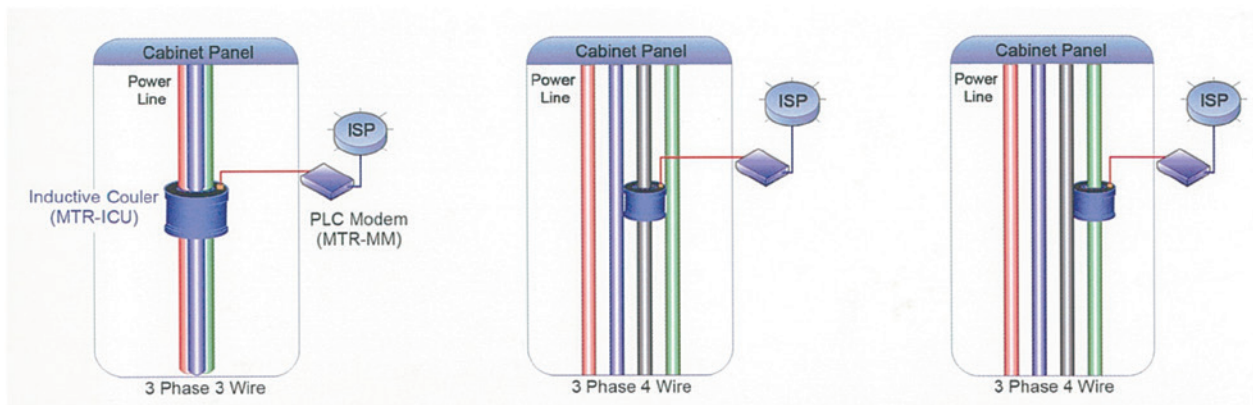
MTR-ICU - H Series



MTR-ICU - L Series



应用



MTR-SPM Series

ezPLC

■ 电力线通信串行调制解调器

电力线通信串行调制解调器将 RS232 / 422 / 485 串行通信数据转换为电力线通信方式的转换器产品。

无需另行铺设通信线路，可利用现有电力线与串行设备进行通信。

此外，除串行数据以外，还可以利用电力线收发以太网数据。

■ 特点

- 支持各种方式转换：串行数据 ↔ 电力线数据
以太网数据 ↔ 电力线数据
以太网数据 ↔ 串行数据
- 无需额外的通信线，可通过现有电力线进行通信。
- 可安装于DIN导轨上，便于在工业现场安装使用。



MTR-SPM-D200A

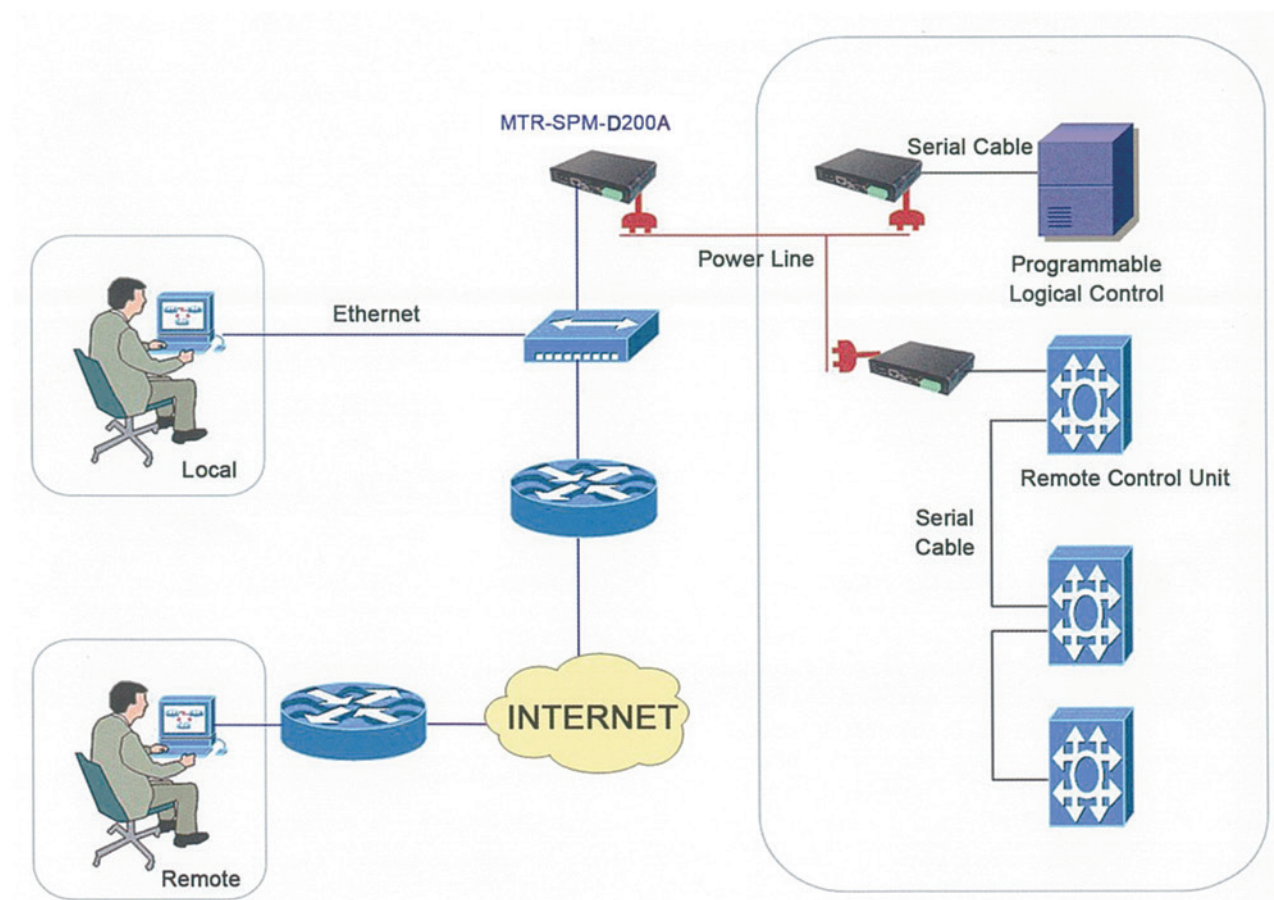
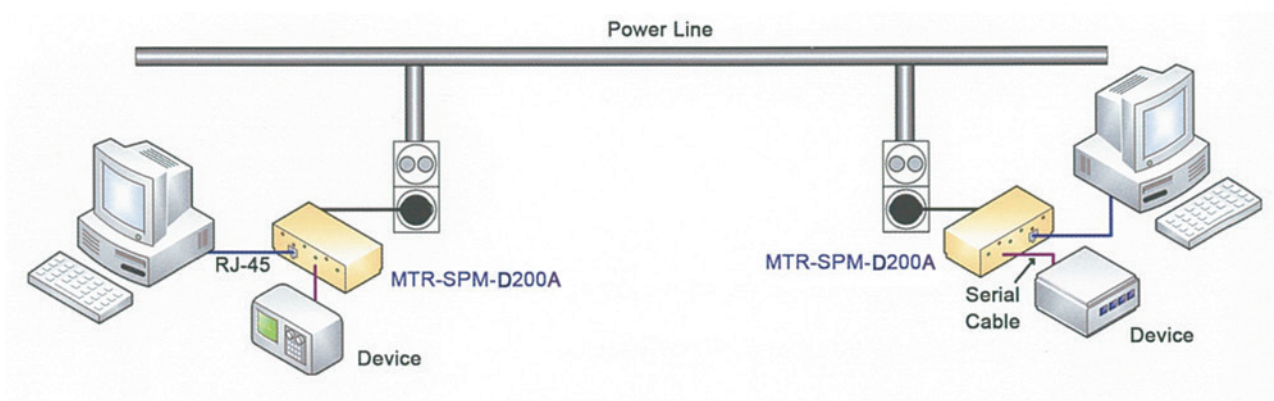
■ 规格参数

Serial Port			
Interface	RS - 232 / RS - 422 / RS - 485 / Zigbee	Signals	RS - 232 : TxD, RxD, RTS, CTS, GND
Connector	DB9, Terminal Block		RS - 422 : TxD+, TxD-, RxD+, RxD-, GND
Baud Rate	110 bps to 921.6 kbps		RS - 485 : TRxD+, TRxD-, GND
Data Bits	5, 6, 7, 8	Ethernet Port	
Stop Bits	1, 2	Standard	IEEE 802.3u (10/100 Base-T)
Flow control	None, RTS / CTS, Xon / Xoff	Connector	RJ-45 UTP-Cat.5
PLC (Power Line Communication)		Hardware	
Payload Speed	Up to 198 Mbps OFDM@1024QAM	LED	COM, ETH, ALC, PWR
MAC Throughput	Max. 120 Mbps	Management	Web Management, Console
Coverage	Up to 200 m	Dimension	200 X 120 X 40 mm
Frequency	2 ~34 MHz	Power Consumption	Max. 5.5 W
MAC	CSMA / CA	Standard	IEEE802.3u, EIA/TIA RS232 / 422 / 485
Standard	OPERA	Reset	Reset to Factory default

MTR-SPM Series

ezPLC

应用



MTR-Modem Series

ezPLC

■ 电力线通信调制解调器

电力线通信调制解调器是一种无需专用线而利用家庭及办公室插头实现网络及家庭网络的设备。在家庭及居家办公(SOHO)环境下,利用电力线轻而易举地构建高速电力线网络。

主调制解调器 (MTR - MM series)

设有连接耦合器单元及通信设备的接口

从属调制解调器 (MTR - MS series)

Plug & Play 方式



MTR-MM-D200



MTR-MS-D200

■ 特点

- 最大支持 200Mbps 速度
- 安装简单: Plug&Play 方式, 只需 Plug-In即可安装
- 扩展性优异: 最多可同时使用16个调制解调器



MTR-MM-D200-A

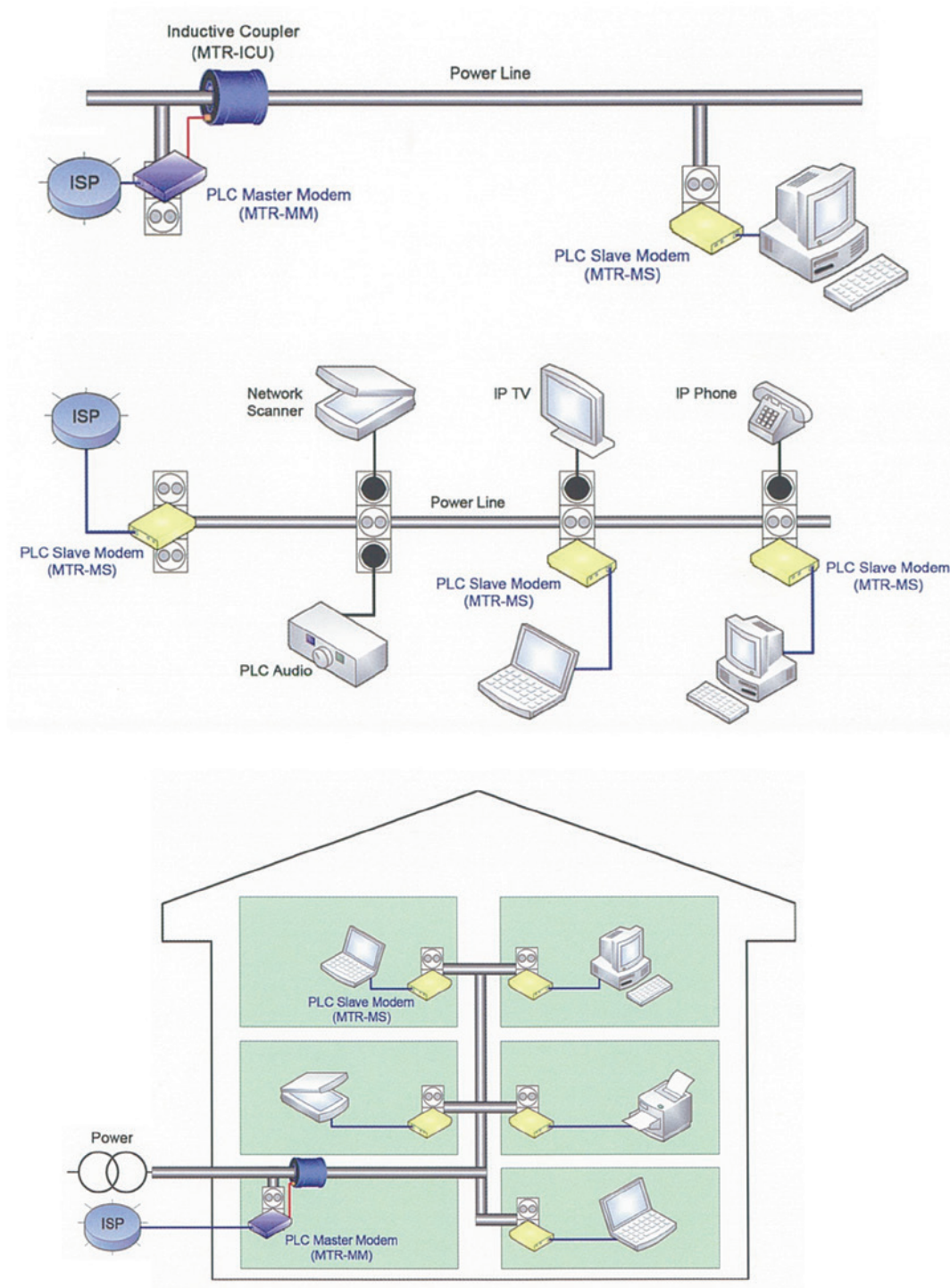
■ 规格参数

Model	MTR-MM Series		MTR-MS Series
	MM - D200-A	MM - D200	MS - D200
PHY Rate (Mbps)	200	200	200
Frequency (MHz)	2 ~ 34	2 ~ 34	2 ~ 34
Power Consumption	7 W	5 W	5 W
Connect Port	BNC Port × 1 ea Ethernet Port : RJ 45 × 2 ea Console Port : 1Port (Connector Type : D-SUB9)	BNC Connector × 1 ea Ethernet Port : RJ 45 × 1 ea	Ethernet Port : RJ 45 × 1 ea
Power Supply	85 ~ 265 V _{AC} , 50/60 Hz		
Operating Temp. (°C)	-20 ~ 70		
Humidity (%)	10 ~ 95		
Dimension (mm) L x W x H	166 x 185 x 40	145 x 110 x 32	145 x 110 x 32

MTR-Modem Series

ezPLC

I 应用

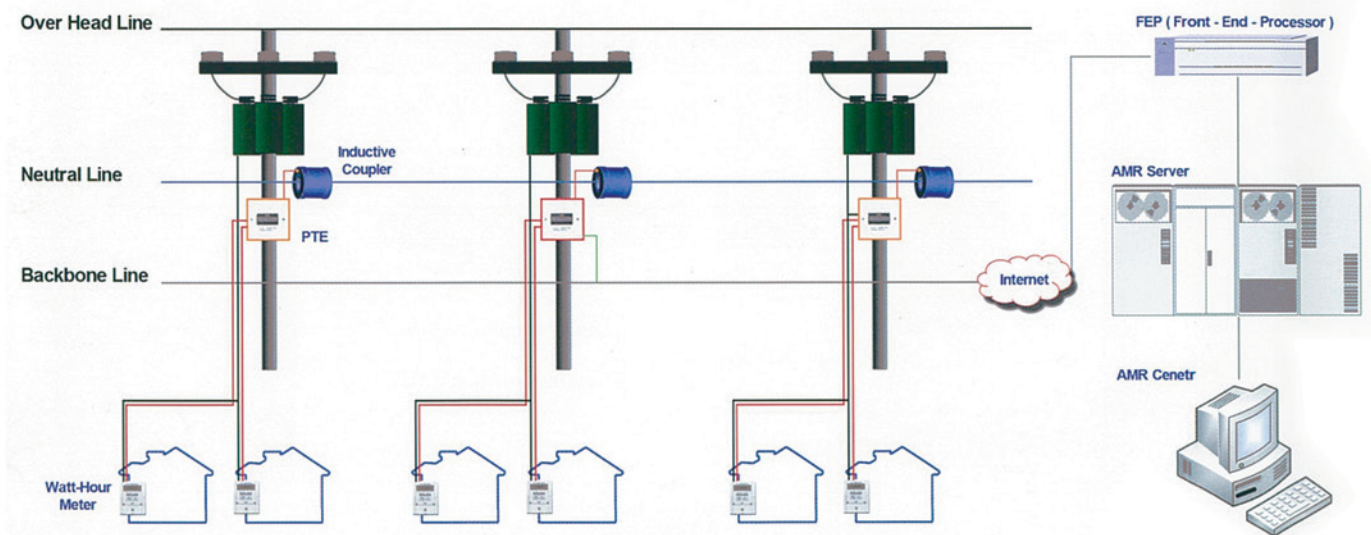


ezPLC Solution

ezPLC

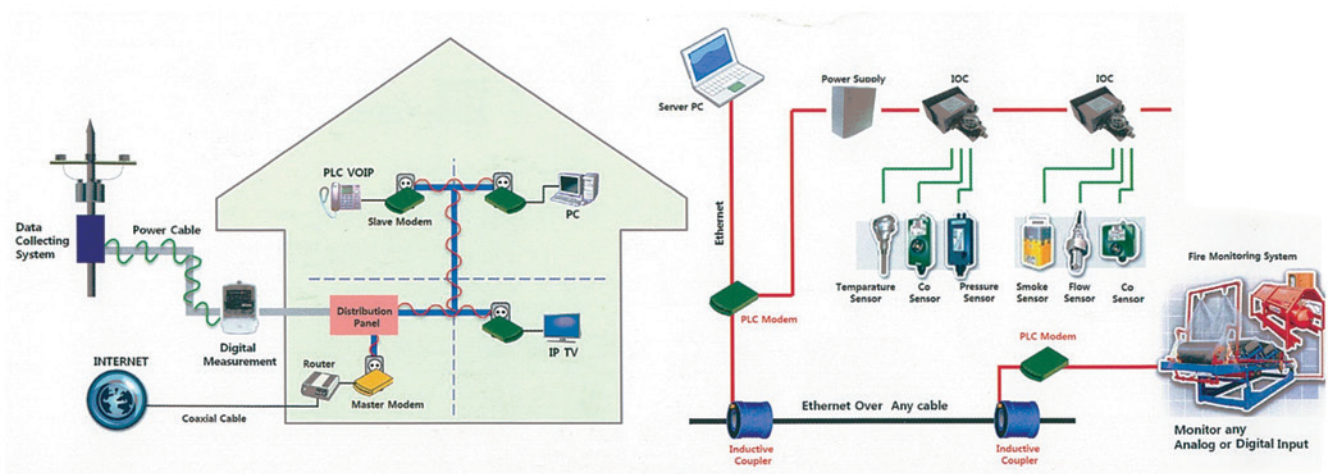
■ Advanced Metering Infrastructure

- 无需直接访问 可远程收集 抄表及管理计量仪表
- 适用于自来水 燃气 热水系统 / 有效数据管理 经济实用



■ Internet & VoIP Services

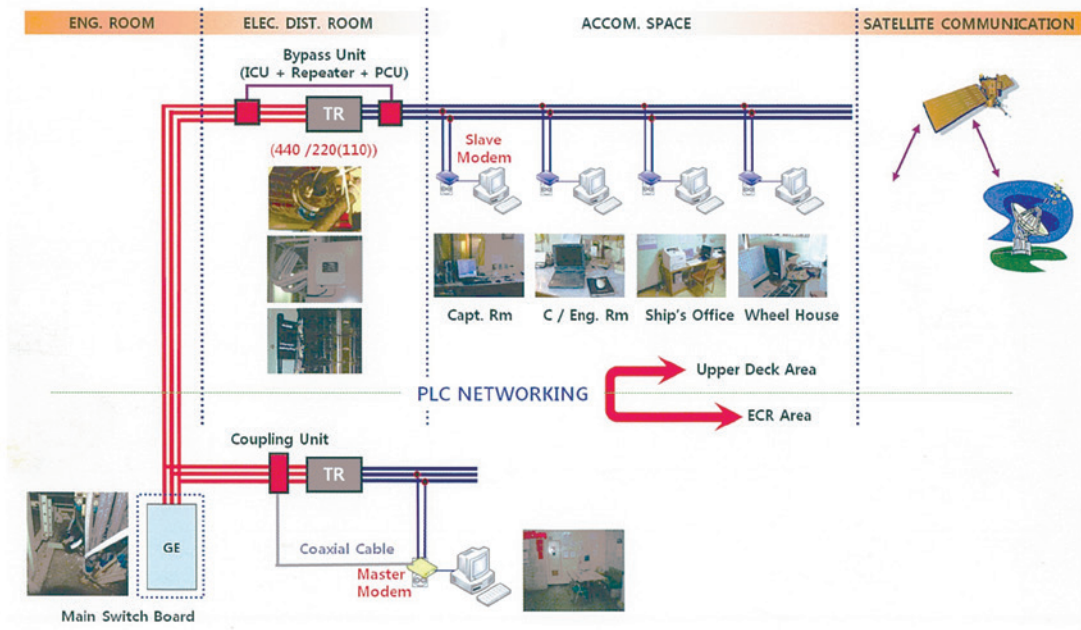
■ Mining's Network



ezPLC

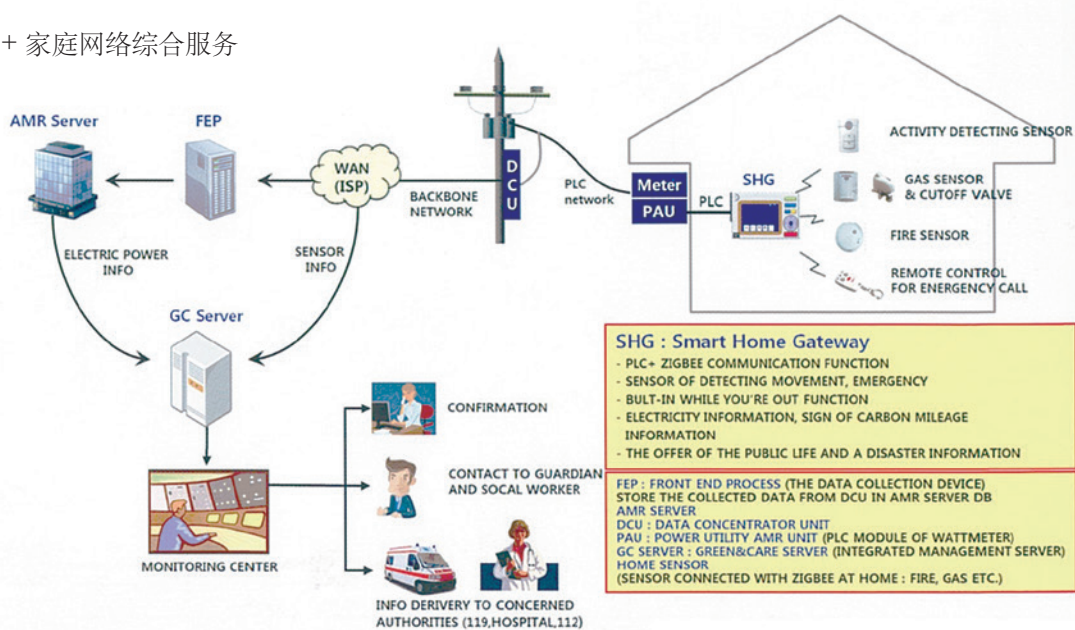
■ **SAN, Ship Area Network**

■ 无需关闭电源即可安装 / 安装时间短 / 实现稳定的通信特性



■ Smart Grid

■ 远程抄表 + 家庭网络综合服务



ezPLC

非接触式远程抄表耦合器

ezPLC

■ 非接触式远程抄表耦合器

非接触式远程抄表耦合器是一种非接触方式的耦合器设备，可利用电力线通信(PLC)顺利实现远程抄表系统，有用于引入线和中性线的耦合器。

引入线专用耦合器

在远程抄表时，增强因各种干扰及分支导致的信号衰减，来消除通信不良的设备。

中性线专用耦合器

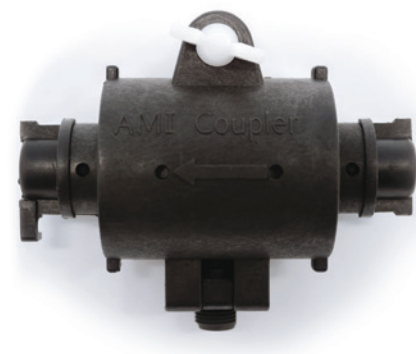
利用中性线实现主DCU与从属DCU之间通信的设备。



引入线专用耦合器 (MTR-AMI-H17)

■ 特点

- 小型 通信特性优异
- 可用于各种电力线规格
- 安装容易 稳定性好
- 最适用于韩国电力远程抄表系统
- 可在室外使用中性线耦合器



中性线专用耦合器 (MTR-AMI-H14)

■ 规格

Product Name	中性线专用耦合器	引入线专用耦合器
Model	MTR-AMI-H14	MTR-AMI-H17
Dimension (mm)	14×60×90	17×40×50
Weight (g)	240	210
Attenuation (dB)	- 6 ± 2	- 6 ± 2
Frequency (MHz)	2 ~ 30	2 ~ 30
Max. Current (A)	50	50
Operation Temp (°C)	- 40 ~ + 80	- 40 ~ + 80
Note	For outdoor	Use only on insulated cable

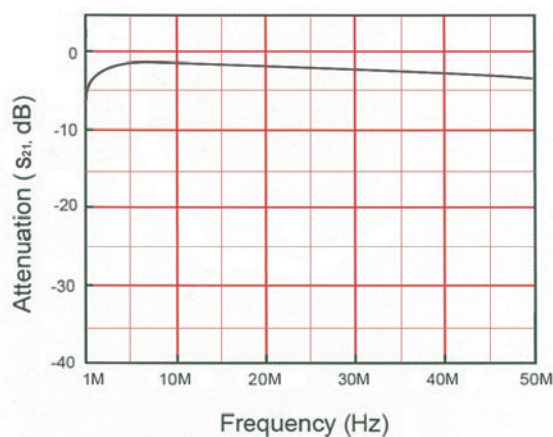
ezPLC

非接触式远程抄表耦合器

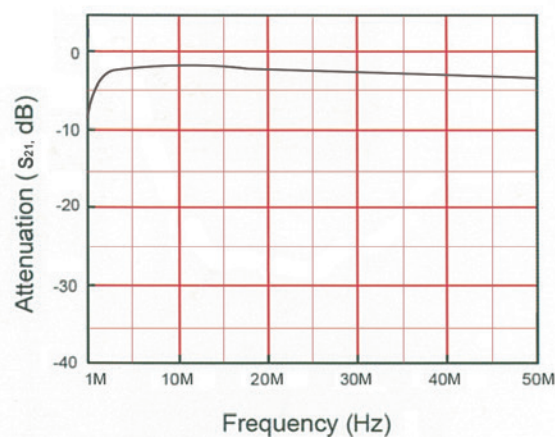
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特性

中性线专用耦合器 (MTR-AMI-H14)

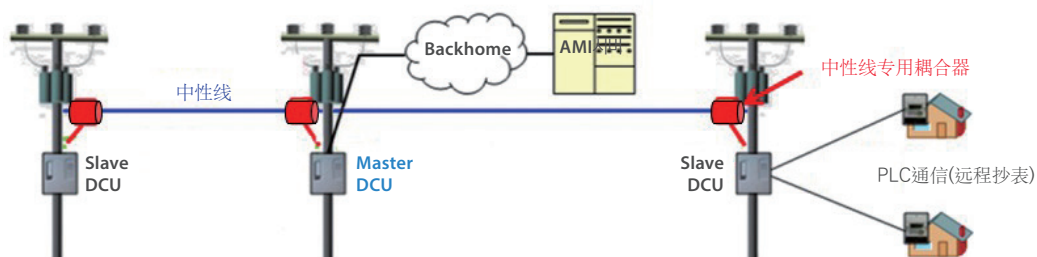


引入线专用耦合器 (MTR-AMI-H17)



应用

中性线专用耦合器



引入线专用耦合器

