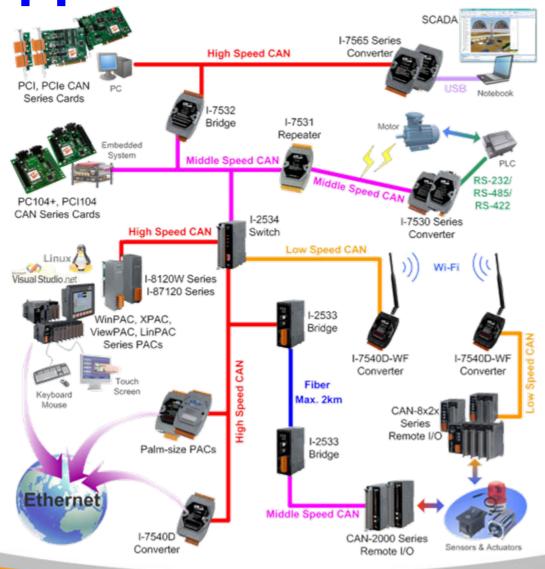
ICP DAS CAN Total solutions 2013



Application Solutions



CAN bus & RS-485

	RS-485	CAN Bus
Bus Distance	40 m 1.2 km	40 m 10 km
Baud Rate	1.2 k 115.2 k	5 k 1 M bps
Multi-Master	Not support	Multi-Master
Benefit	Popularity	Safety
Feature		Arbitration Mechanism

CAN bus Series in ICP DAS





PAC solutions





CAN Converter, Repeater, Bridge, Switch		
Fiber / CAN Converter	I-2532 , I-2533	
Serial / CAN Converter	I-7530 , I-7530-FT , I-7530A , I-7530A-MR	
USB / CAN Converter	I-7565 , I-7565-H1 , I-7565-H2	
Ethernet / CAN Converter	I-7540D , I-7540D-MTCP	
Wi-Fi / CAN Converter	I-7540D-WF	
CAN bus Repeater	I-7531	
CAN bus Bridge	I-7532	
CAN bus Switch	I-2534	

CAN Converter Performance

CAN Converter Performance		Delay Time or Max. FPS
Fiber / CAN Converter	I-2532	Delay Time = 125 ns
Fiber / CAN Converter	I-2533	Delay Time = 120 us
Serial / CAN Converter	I-7530,I-7530A I-7530-FT,	320 ~ 420 FPS
	I-7530A-MR	370 FPS
	I-7565	250 FPS
USB / CAN Converter	I-7565-H1 / H2	3000 FPS
Ethernet / CAN	I-7540D	1600 FPS
Converter	I-7540D-MTCP	2300 FPS
Wi-Fi / CAN Converter	I-7540D-WF	700 FPS
CAN bus Repeater	I-7531	Delay Time = 125 ns
CAN bus Bridge	I-7532	Delay Time = 120 us
CAN bus Switch	I-2534	Delay Time = 360 ~ 560 us

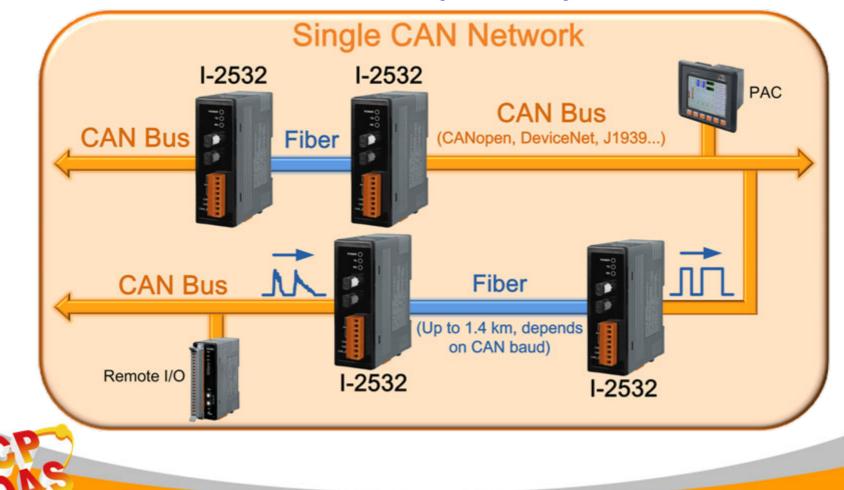
• CAN / Fiber Converter (I-2532)

Feature :

- Compatible with CAN 2.0A and 2.0B
- Auto-baud detection from 10 k ~ 500 kbps
- Fiber Port: ST (Multi-mode)
- Up to 100 nodes on CAN port
- Provide CAN bus signal conversion and isolation.
- Not support extending CAN bus distance.
- Max. propagation delay is 125 ns
- 2500 Vrms isolation on CAN bus
- 3 kV galvanic isolation among power supply.



• CAN / Fiber Converter (I-2532)



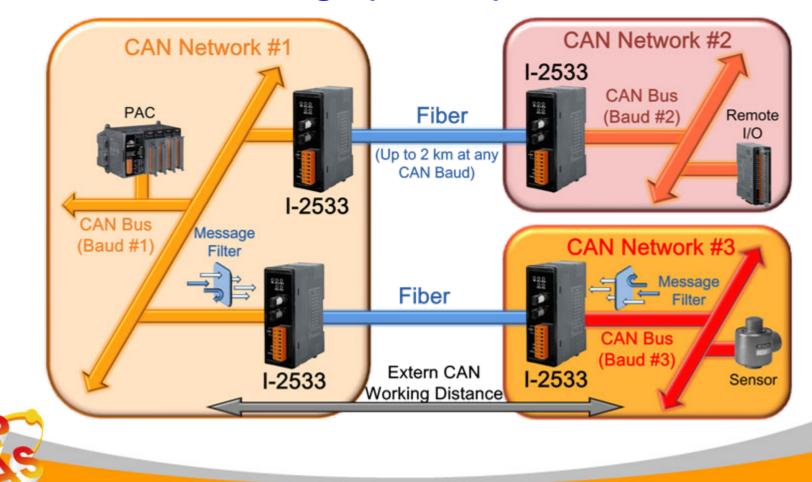
• CAN / Fiber Bridge (I-2533)

Feature :

- Compatible with CAN 2.0A and 2.0B.
- Selectable baud rate : 10 k ~ 1 Mbps.
- Support user-define baud rate.
- Fiber Port: ST (Multi-mode)
- Up to 100 nodes on CAN port
- Extend CAN bus working distance.
- Rebuild CAN signal.
- Built-in CAN message buffer.
- 2500 Vrms isolation on the CAN side
- 3 kV galvanic isolation among power supply.



• CAN / Fiber Bridge (I-2533)



CAN/Fiber Products			
	I-2532	I-2533	
Product Type	Converter	Bridge	
Extend CAN bus	X	V	
Built-in CAN Buffer	X	V	
Propagation Delay	125ns max.	120us max.	
Rebuild CAN signal	V	V	
Isolated CAN bus	V	V	
Max. CAN node	At least 100	At least 100	
Baud Rate	Auto-detect (500K max.)	10k~1Mbps	

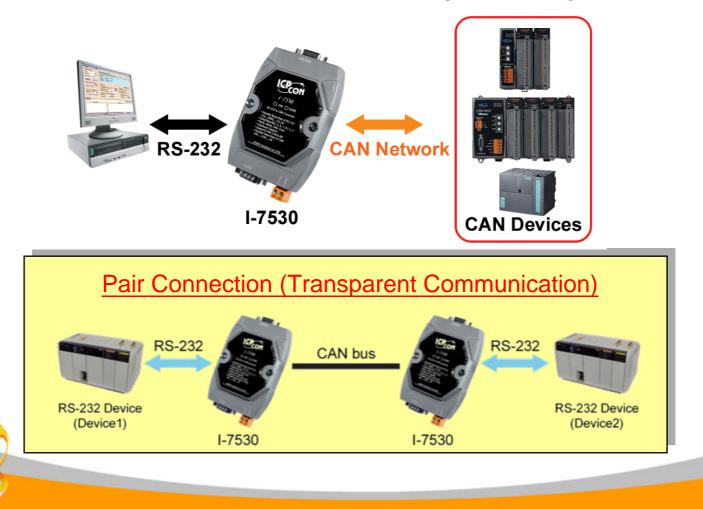
• RS-232 to CAN Converter (I-7530)

Feature :

- Compatible with CAN 2.0A and 2.0B.
- Compatible with ISO 11898-2 standard.
- Baud rate : 10 k ~ 1 Mbps.
- Support CAN filter configuration.
- One CAN port and one RS-232 port.
- Support transparent communication.
- Built-in CAN and RS-232 message buffer.
- 2500 Vrms isolation on the CAN side
- 3 kV galvanic isolation among power supply.



RS-232 to CAN Converter (I-7530)



• RS-232 to CAN Fault Tolerant Converter (I-7530-FT)

Feature :

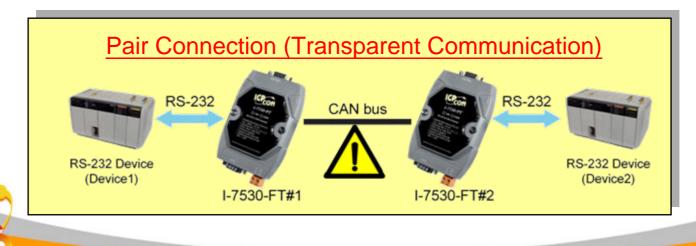
- Compatible with CAN 2.0A and 2.0B.
- Compatible with ISO 11898-3 standard (low speed fault tolerance)
- Baud rate : 10k, 20k, 50k, 125k bps.
- Support CAN filter configuration.
- One CAN port and one RS-232 port.
- Support transparent communication.
- Built-in CAN and RS-232 message buffer.
- None isolation.



RoHS

• RS-232 to CAN Fault Tolerant Converter (I-7530-FT)





CAN/RS-232 Products			
	I-7530 I-7530-FT		
Product Type	CAN / RS-232 Converter	CAN / RS-232 Converter	
Specification	11898-2	11898-3 (Fault Tolerance)	
Fault Tolerance	X	V	
Baud Rate	10k~1Mbps	10k, 20k, 50k, 125k bps	
Isolated CAN	V	X	
Built-in CAN Buffer	V	V	
Pair Connection	V	V	

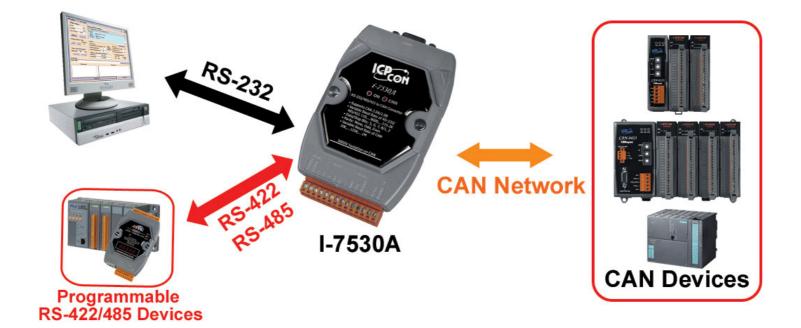
• RS-485 to CAN Converter (I-7530A)

Feature :

- Compatible with CAN 2.0A and 2.0B.
- Baud rate : 10k ~ 1M bps.
- Support CAN filter configuration.
- One CAN /RS-232 /RS-422 /RS-485 port.
- Support transparent communication.
- Built-in CAN and UART message buffer.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.



RS-485 to CAN Converter (I-7530A)



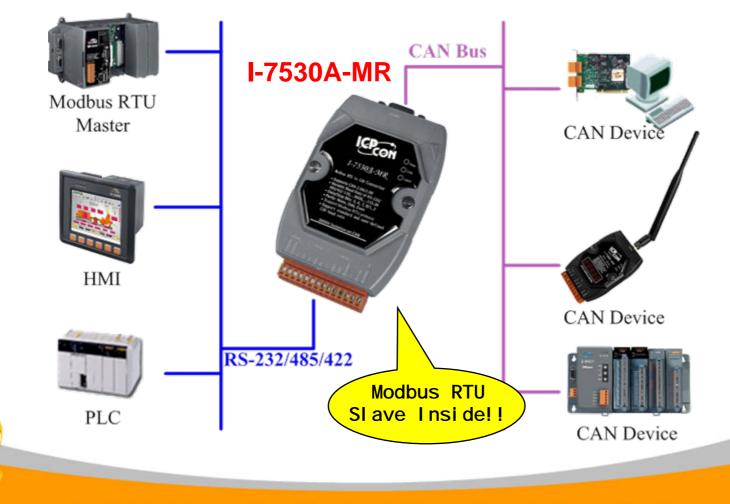
Modbus RTU to CAN Converter (I-7530A-MR)

Feature :

- Compatible with CAN 2.0A and 2.0B.
- Baud rate : 10k ~ 1M bps.
- Support CAN filter configuration.
- One CAN /RS-232 /RS-422 /RS-485 port.
- Support transparent communication.
- Built-in CAN and UART buffer.
- Support Modbus RTU function to read and write CAN message.
- RS-232 function is compatible with I-7530 module.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.



Modbus RTU to CAN Converter (I-7530A-MR)



CAN/UART Products			
	I-7530A	I-7530A-MR	
Product Type	CAN / RS-232/422/485 Converter	CAN / Modbus RTU Converter	
CAN Baud Rate	10k~1Mbps	10k~1Mbps	
Specific CAN ID	X	V (10 CAN IDs)	
UART Baud Rate	115200bps (Max.)	230400bps (Max.)	
Isolated CAN	V	V	
Built-in CAN and UART Buffer	V	V	
Pair Connection	V	V	



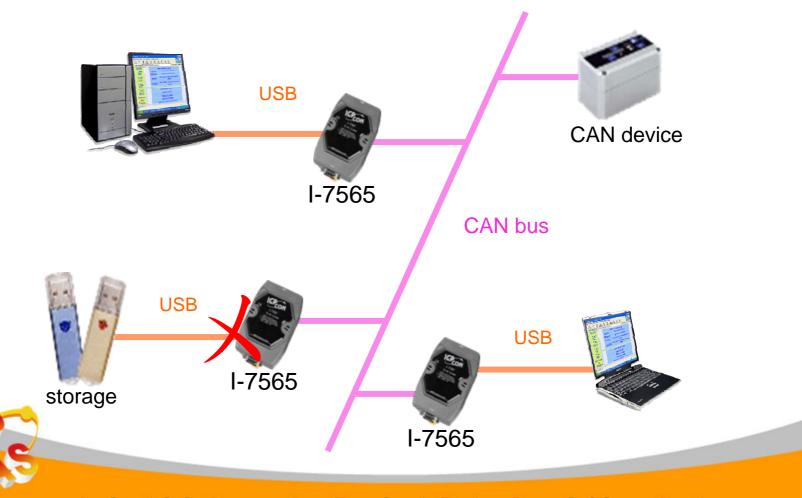
• USB to CAN Converter (I-7565)

Feature :

- Compatible with CAN 2.0A and 2.0B.
- Baud rate : 10k ~ 1M bps.
- Support CAN filter configuration.
- One CAN port.
- Fully compliant with USB 1.1/2.0
- Powered by USB.
- Built-in CAN and UART message buffer.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.



• USB to CAN Converter (I-7565)



- High Speed USB to CAN Converter (I-7565-H1)
- High Speed USB to CAN Converter (I-7565-H2)
 Feature :
- Compatible with CAN 2.0A and 2.0B.
- Baud rate : 5k ~ 1M bps.
- Support CAN filter configuration.
- I-7565-H1 has one CAN port.
- I-7565-H2 has two CAN ports.
- Compliant with USB 1.1/2.0 (Full speed).
- Powered by USB.
- Built-in CAN message buffer.
- Provide Hardware Serial Number to protect users' program.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.



I-7565-H1



High Speed USB / CAN Converter (I-7565-H1/H2)



CAN/USB Products				
I-7565 I-7565-H1 I-7565-H2				
Baud Rate	10k~1Mbps	5k~1Mbps	5k~1Mbps	
CAN Port	1	1	2	
Hardware SN.	Х	V	V	
Isolated CAN	V	V	V	
Built-in CAN Buffer	V	V	V	
Powered by USB	V	V	V	

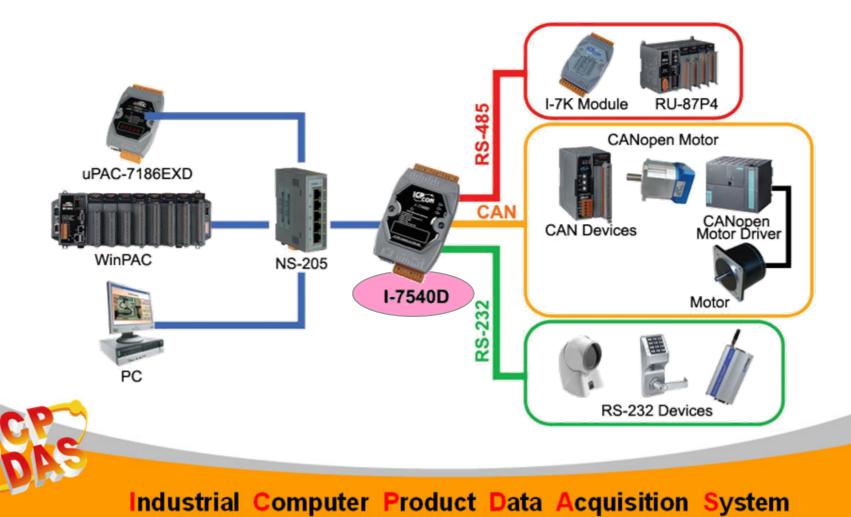
• Ethernet to CAN Converter (I-7540D)

Feature :

- Compatible with CAN 2.0A and 2.0B.
- Baud rate : 10k ~ 1M bps.
- Support CAN filter configuration.
- One CAN /RS-232 /RS-485 port.
- One 10/100 Base-T Ethernet port.
- Support Virtual COM technology.
- Support Max. 25 Ethernet clients connection.
- Support Web configuration.
- 2500 Vrms isolation on the CAN side.
- 1 kV galvanic isolation among power supply.

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• Ethernet to CAN Converter (I-7540D)



Ethernet to CAN Converter (I-7540D-MTCP)

RoHS

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Feature :

- Compatible with CAN 2.0A and 2.0B.
- Baud rate : 10k ~ 1M bps.
- Support CAN filter configuration.
- One CAN /RS-232 /RS-485 port.
- One 10/100 Base-T Ethernet port.
- Support Modbus TCP Server and Modbus RTU Slave.
- Support Max. 25 Ethernet clients.
- Support Web configuration.
- 2500 Vrms isolation on the CAN side.
- 1 kV galvanic isolation among power supply.



• Ethernet to CAN Converter (I-7540D-MTCP)



• Wi-Fi to CAN Converter (I-7540D-WF)

Feature :

- Compatible with CAN 2.0A and 2.0B.
- Baud rate : 5k ~ 1M bps.
- Compliant with IEEE 802.11b/g.
- Supports WEP, WPA and WPA2 encryption for wireless LAN.
- Support infrastructure and ad-hoc modes.
- point to point or point to multi-points connection via wireless LAN.
- Built-in CAN message buffer.
- Wireless communication: 100m ~ 300m.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.

Industrial Computer Product Data Acquisition System

RoHS

• Wi-Fi to CAN Converter (I-7540D-WF)



CAN bus Repeater (I-7531)

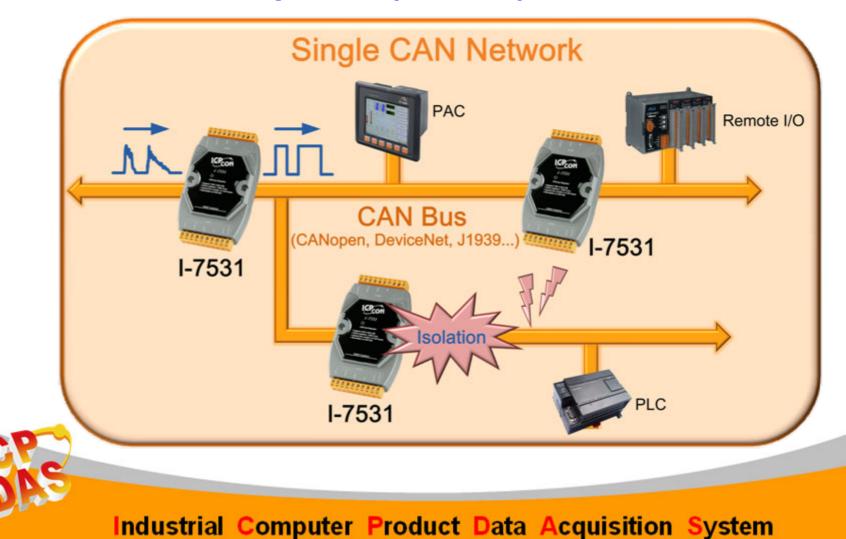
Feature :

- Compatible with CAN 2.0A and 2.0B.
- Auto-baud detection from 10 k ~ 800 kbps
- Up to 100 nodes on CAN port.
- Rebuild CAN signal.
- Not support extending CAN bus distance.
- 2500 Vrms isolation on the CAN side
- 3 kV galvanic isolation among power supply.





• CAN bus Repeater (I-7531)



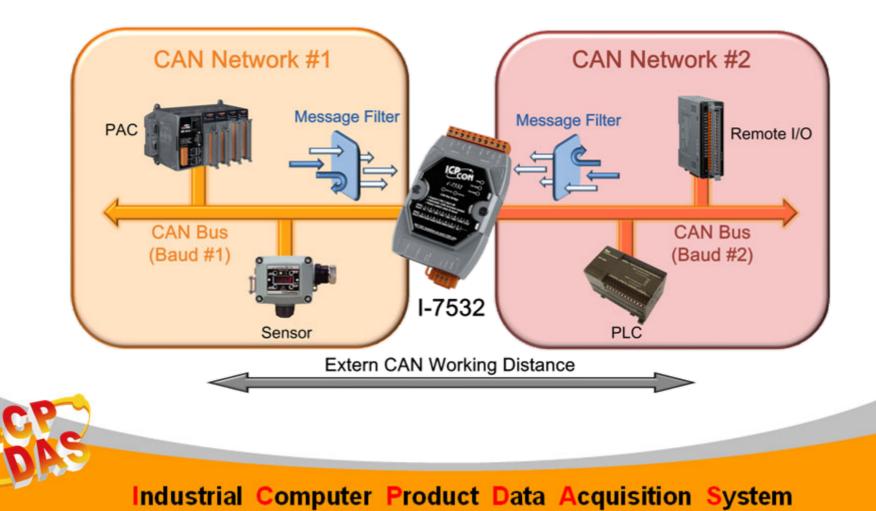
• CAN bus Bridge (I-7532)

Feature :

- Compatible with CAN 2.0A and 2.0B.
- Selectable baud rate : 5 k ~ 1 Mbps.
- Support user-define baud rate.
- Support CAN filter configuration.
- Up to 100 nodes on CAN port
- Extend CAN bus working distance.
- Rebuild CAN signal.
- Built-in CAN message buffer.
- 2500 Vrms isolation on the CAN side
- 3 kV galvanic isolation among power supply.



• CAN bus Bridge (I-7532)



CAN Converter Solutions

CAN Products			
	I-7531	I-7532	
Product Type	CAN bus Repeater	CAN bus Bridge	
Baud Rate	Auto-detect	5k~1Mbps	
Propagation Delay	125 ns	120 us	
Extend CAN bus	X	V	
Rebuild CAN Signal	V	V	
Built-in CAN Buffer	V	V	
Max. CAN nodes	At least 100	At least 100	
Isolated CAN	V	V	

CAN Converter Solutions

• CAN bus Switch (I-2534)

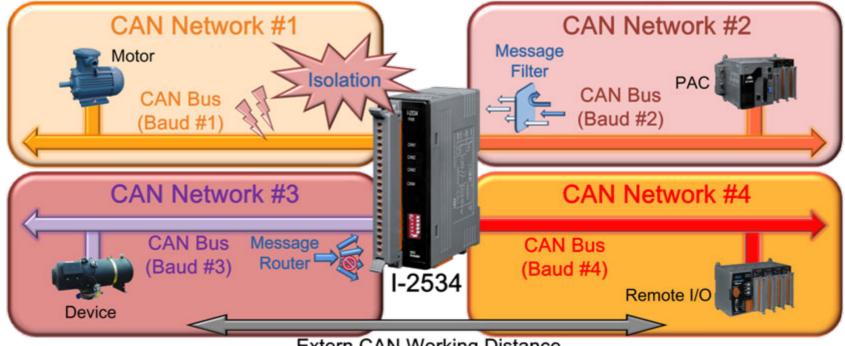
Feature :

- Compatible with CAN 2.0A and 2.0B.
- Selectable baud rate : 5 k ~ 1 Mbps.
- Support user-define baud rate.
- Support CAN filter configuration.
- Configurable route path.
- Extend CAN bus working distance.
- Rebuild CAN signal.
- Built-in CAN message buffer.
- Support Tree or Star topology.
- 2500 Vrms isolation on the CAN side
- 3 kV galvanic isolation among power supply.



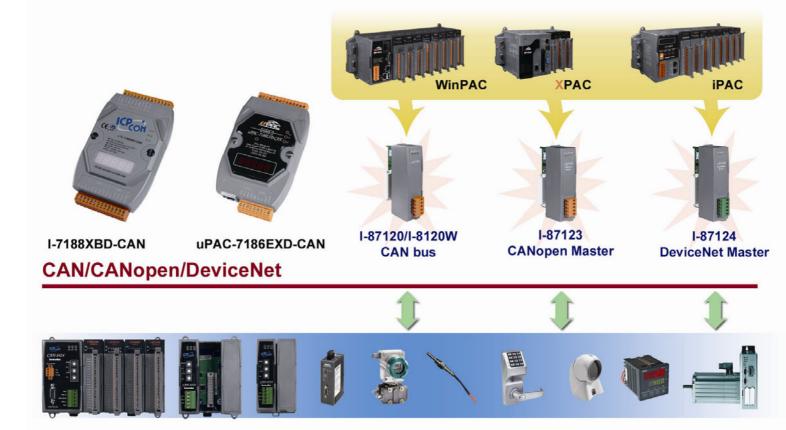
CAN Converter Solutions

• CAN bus Switch (I-2534)



Extern CAN Working Distance

PAC Solutions



CAN/CANopen/DeviceNet devices

CAN bus PAC Products		
Palm size CAN PAC	I-7188XBD-CAN	
with UART and DI/DO		
Palm size CAN PAC	uPAC-7186EXD-CAN	
with Ethernet / UART and DI/DO	UFAC-/ 100EAD-CAN	
Palm size CAN PAC	uPAC-5001D-CAN1	
With Ethernet / microSD / UART	uPAC-5001D-CAN2	
CAN PAC Module	I-87120 , I-8120W	
for XPAC / WinPAC / ViewPAC		

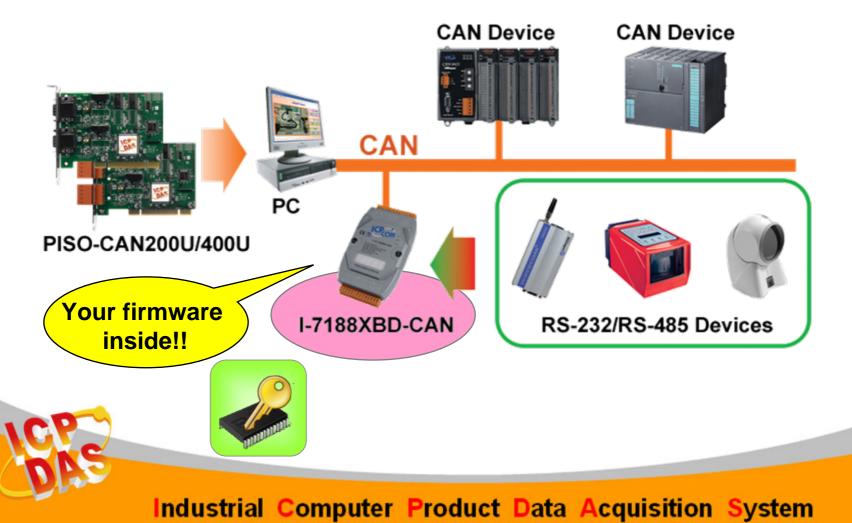
• Palm size CAN PAC (I-7188XBD-CAN)

Feature :

- 80186, 40MHz CPU.
- 512K bytes SRAM.
- 512K bytes Flash.
- 2K byte EEPROM.
- Support C/C++ programming language.
- Built-in ICP DAS's MiniOS 7.
- Built-in an unique Hardware Serial No.
- Built-in CAN / UART / DO / DI channels.
- 7-segment LED display.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.



• Palm size CAN PAC (I-7188XBD-CAN)



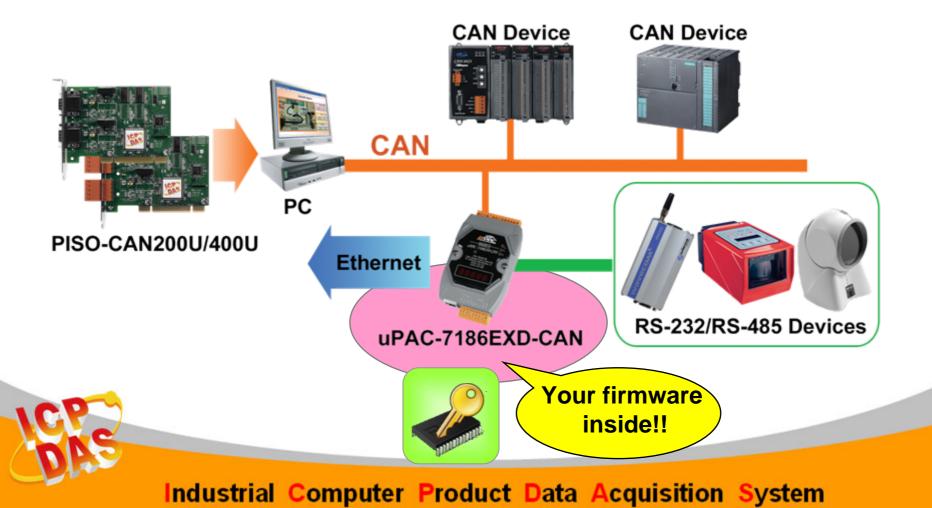
• Palm size CAN PAC with Ethernet (uPAC-7186EXD-CAN)

Feature :

- 80186, 80MHz CPU.
- 512K bytes SRAM.
- 512K bytes Flash.
- 2K byte EEPROM.
- Support C/C++ programming language.
- Built-in ICP DAS's MiniOS 7.
- Built-in an unique Hardware Serial No.
- Built-in CAN / UART / DO / DI channels.
- 10/100 BASE-T Ethernet Controller.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.



• uPAC-7186EXD-CAN (Programmable CAN Controller)



• CAN PAC with various storage media (uPAC-5001D-CAN)

Feature :

- 80186, 80MHz CPU.
- 512K bytes SRAM.
- 512K bytes Flash.
- 16K byte EEPROM.
- Support 2GB microSD.
- Support C/C++ programming language.
- Built-in ICP DAS's MiniOS 7.
- Built-in an unique Hardware Serial No.
- Built-in CAN / UART / Ethernet channels.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.





• CAN PAC with various storage media (uPAC-5001D-CAN)



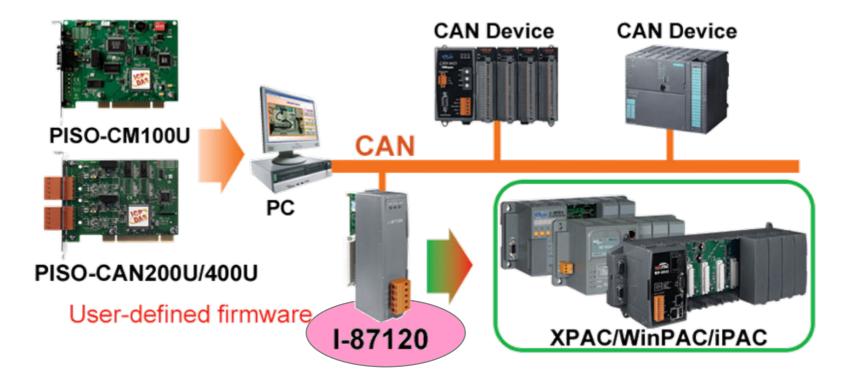
• CAN PAC Module (I-87120)

Feature :

- I-87K serial port communication mechanism.
- 80186, 80MHz CPU.
- 512K bytes SRAM.
- 512K bytes Flash.
- 2K byte EEPROM.
- Firmware support C/C++ language.
- Built-in ICP DAS's MiniOS 7.
- Support XPAC / WinPAC / ViewPAC controller.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.



• CAN PAC Module (I-87120)



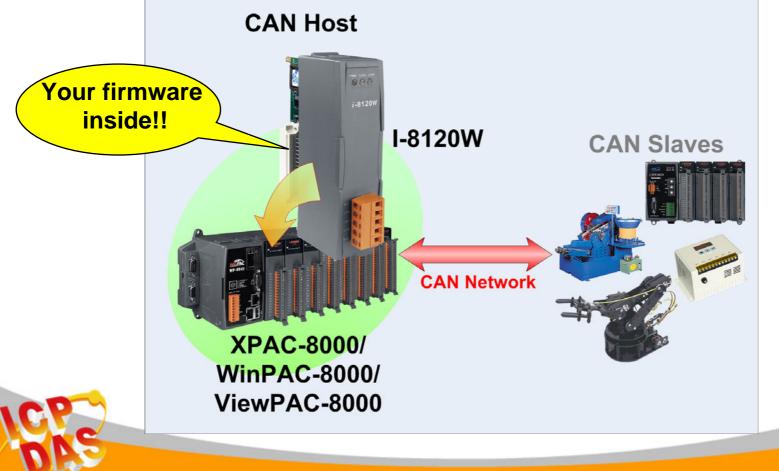
• CAN PAC Module (I-8120W)

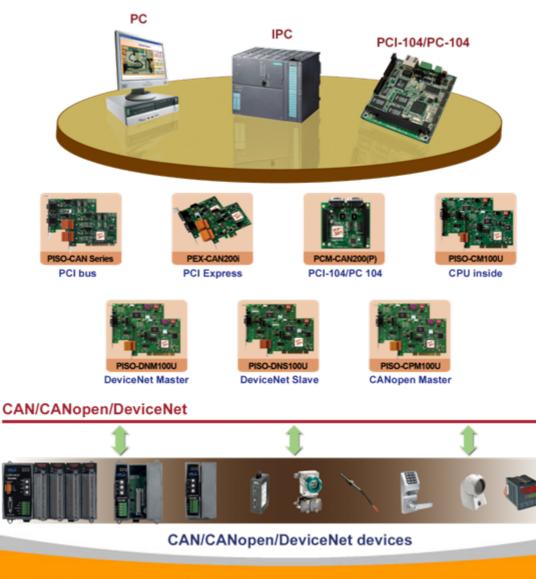
Feature :

- I-8K parallel port communication mechanism.
- 80186, 80MHz CPU.
- 512K bytes SRAM.
- 512K bytes Flash.
- 2K byte EEPROM.
- Firmware support C/C++ language.
- Built-in ICP DAS's MiniOS 7.
- Support XPAC / WinPAC / ViewPAC controller.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.



CAN PAC Module (I-8120W)





CAN bus PC Board Products	
PISO-CAN 100U	1-port CAN bus Universal PCI Board
PISO-CAN 200U	2-port CAN bus Universal PCI Board
PISO-CAN 400U	4-port CAN bus Universal PCI Board
PISO-CAN 800U	8-port CAN bus Universal PCI Board
PEX-CAN 200i	2-port CAN bus PCI-Express Board
PISO-CM 100U	1-port CAN Universal PCI Board with CPU inside
PCM-CAN 100	1-port CAN bus PCI-104 Board
PCM-CAN 200	2-port CAN bus PCI-104 Board
PCM-CAN 200P	2-port CAN bus PC-104+ Board
PCM-CM100-D	1-port CAN bus PCI-104 Board with CPU inside

%All PC boards have the same CAN bus performance with 7500 FPS.

• 1/2/4/8 CAN Ports Universal PCI Board

Feature :

- Universal PCI interface.
- Compatible witch CAN 2.0A and 2.0B.
- Baud rate : 10k ~ 1M bps and userdefined.
- Support CAN filter configuration.
- Provide software utility and Demos.
- Support LabVIEW and DASYLab drivers.
- Support CAN OPC server.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.



PISO-CAN 100U



PISO-CAN 200U



PISO-CAN 400U





Industrial Computer Product Data Acquisition System

PISO-CAN 800U

• Built-in CPU Universal PCI Board (PISO-CM100U)

Feature :

- Universal PCI interface.
- Compatible witch CAN 2.0A and 2.0B.
- Follow ISO-11898-2 standard.
- Baud rate : 10k ~ 1M bps and user-defined.
- Support user-defined firmware.
- Built-in 80186, 80MHz CPU.
- Provide software utility and Demos.
- Support LabVIEW and DASYLab drivers.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.





• 2-port CAN PCI-Express Board (PEX-CAN 200i)

Feature :

- PCI-Express interface.
- Compatible witch CAN 2.0A and 2.0B.
- Follow ISO-11898-2 standard.
- Baud rate : 10k ~ 1M bps and user-defined.
- Support CAN filter configuration.
- Provide software utility and Demos.
- Support LabVIEW and DASYLab drivers.
- Support CAN OPC server.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.





- 1-port CAN PCI-104 Board (PCM-CAN 100)
- 2-port CAN PCI-104 Board (PCM-CAN 200)

Feature :

- PCI-104 interface.
- Compatible witch CAN 2.0A and 2.0B.
- Follow ISO-11898-2 standard.
- Baud rate : 10k ~ 1M bps and user-defined.
- Support LabVIEW and DASYLab drivers.
- Provide software utility and Demos.
- Support CAN OPC server.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.



PCM-CAN 100





• 2-port CAN PC-104+ Board (PCM-CAN 200P)

Feature :

- PC-104+ interface.
- Compatible witch CAN 2.0A and 2.0B.
- Follow ISO-11898-2 standard.
- Baud rate : 10k ~ 1M bps and user-define.
- Support LabVIEW and DASYLab drivers.
- Provide software utility and Demos.
- Support CAN OPC server.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.







• Built-in CPU PCI-104 Board (PCM-CM100-D)

Feature :

- PCI-104 interface.
- Compatible witch CAN 2.0A and 2.0B.
- Follow ISO-11898-2 standard.
- Baud rate : 10k ~ 1M bps and user-defined.
- Support user-defined firmware.
- Built-in 80186, 80MHz CPU.
- Provide software utility and Demos.
- Support LabVIEW and DASYLab drivers.
- 2500 Vrms isolation on the CAN side.
- 3 kV galvanic isolation among power supply.







Software Drivers



Other CAN Products

Description	Product Name
3 Phase Compact Power Meter	PM-2133-CAN
4 Loop 1 Phase Compact Power Meter	PM-2134-CAN
7/14 channels Surge Protector	SG-770
CAN bus Connector	CNT-CAN
9-pin Female D-sub & 3-wire CAN bus cable	CA-0910-C

CAN bus Power Meter

- 3 Phase Compact Power Meter (PM-2133-CAN)
- 4 Loop 1 Phase Compact Power Meter (PM-2134-CAN)

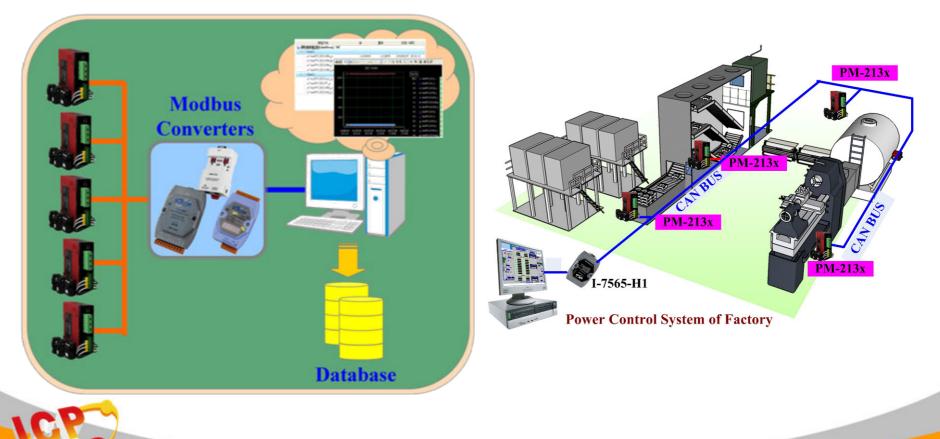
Feature :

- True RMS energy and power parameters measurement in compact size.
- Easy wiring for on-line installation.
- Wh accuracy better than 1%(PF=1).
- RS-485 communication supported Modbus RTU protocol.
- CAN Bus communication compatible with CAN 2.0B.
- Support Poll and Auto-response mode on CAN communication.
- 4 kV ESD protection.



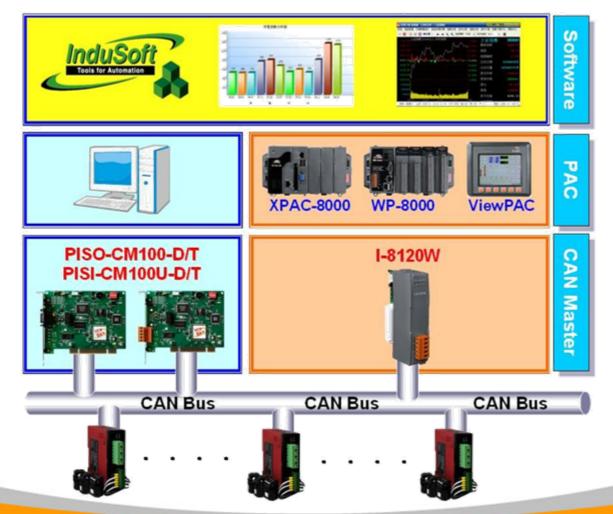
CAN bus Power Meter

- 3 Phase Compact Power Meter (PM-2133-CAN)
- 4 Loop 1 Phase Compact Power Meter (PM-2134-CAN)



CAN Power Meter Master Solutions

• I-8120W / PISO-CM100U with Power Meter Firmware



CAN Bus Surge Protector

• 7 / 14 channels Surge Protector

Feature :

- Follow the IEC 61000-4-5 and IEC 61000-4-12
- 7 differential or 14 single-ended input channels.
- Input Signal Type : Voltage, Current, Thermocouple, RTD, RS-485/422, RS-232, CAN bus, FRnet





CAN Bus Connector

CNT-CAN

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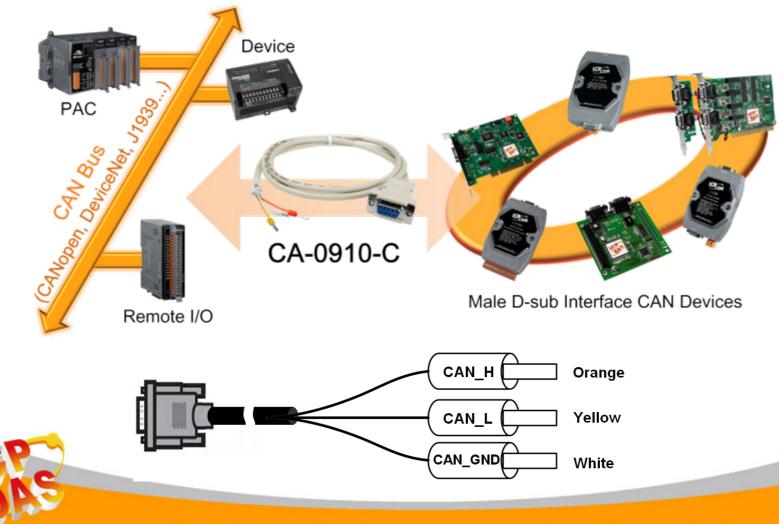
• CNT-CAN

Feature :

- Built-in switch to select 120Ω terminal resistor.
- 2 cable entries.
- Available with programming interface.
- 90° cable outlet
- Baud rate10kbps ~ 1Mbps

CAN Bus Cable

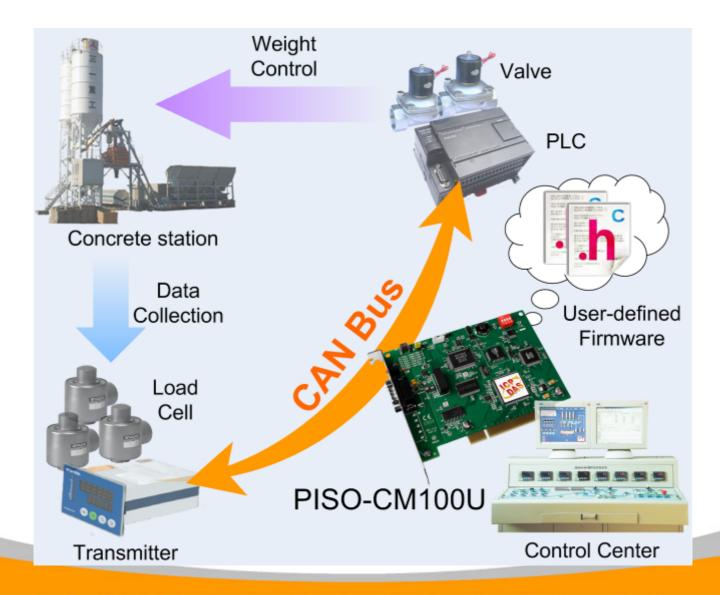
• CA-0910-C



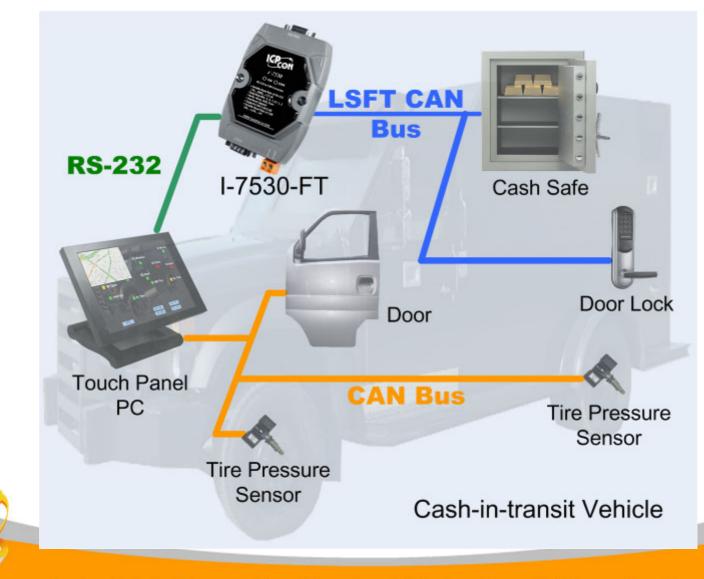
Application References



Concrete Station Control System



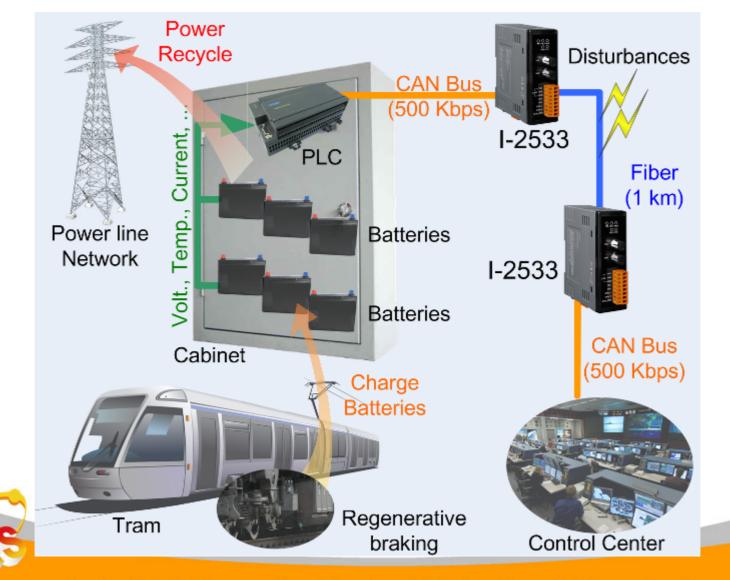
Cash-in-transit Vehicle



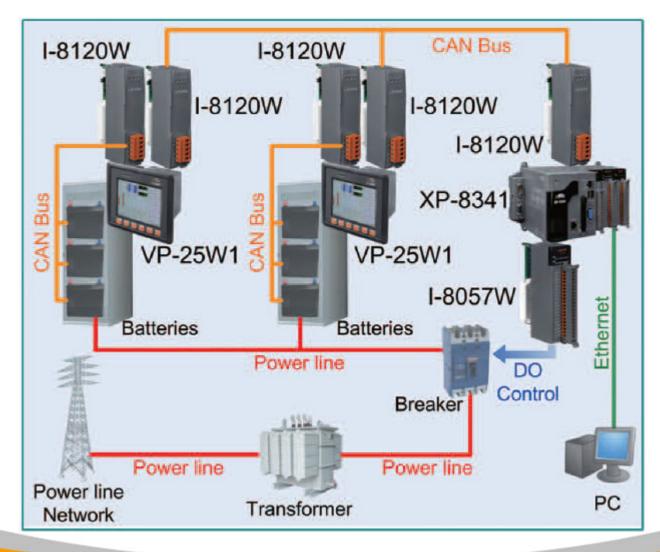
Electric Vehicle Charging System



Electric Tram Charging System

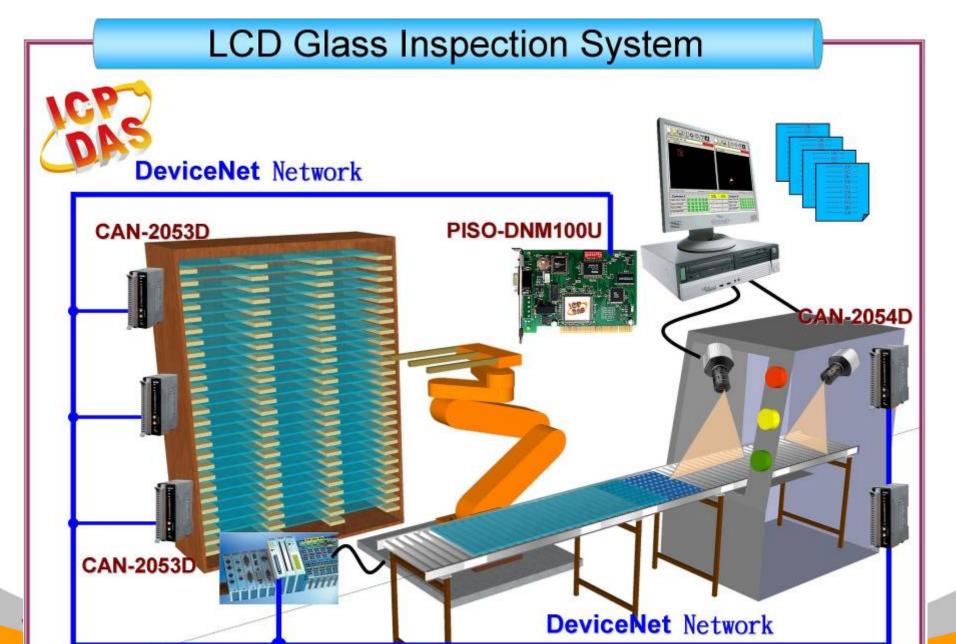


Energy Storage System



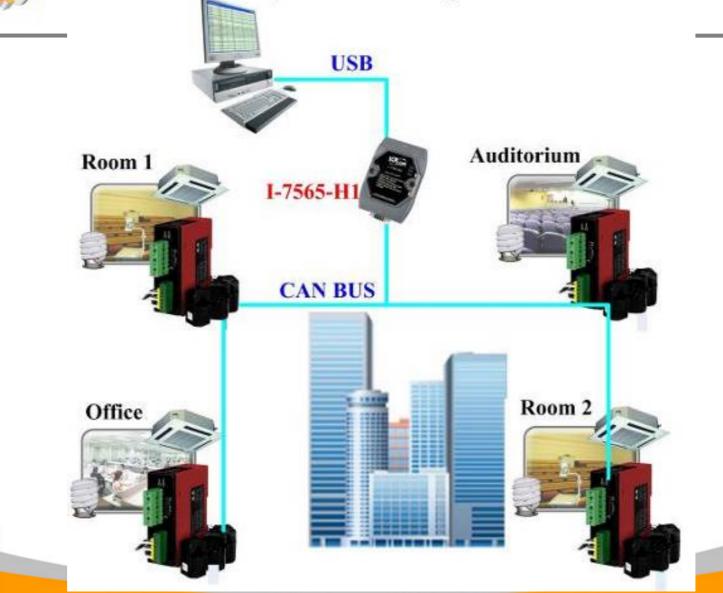


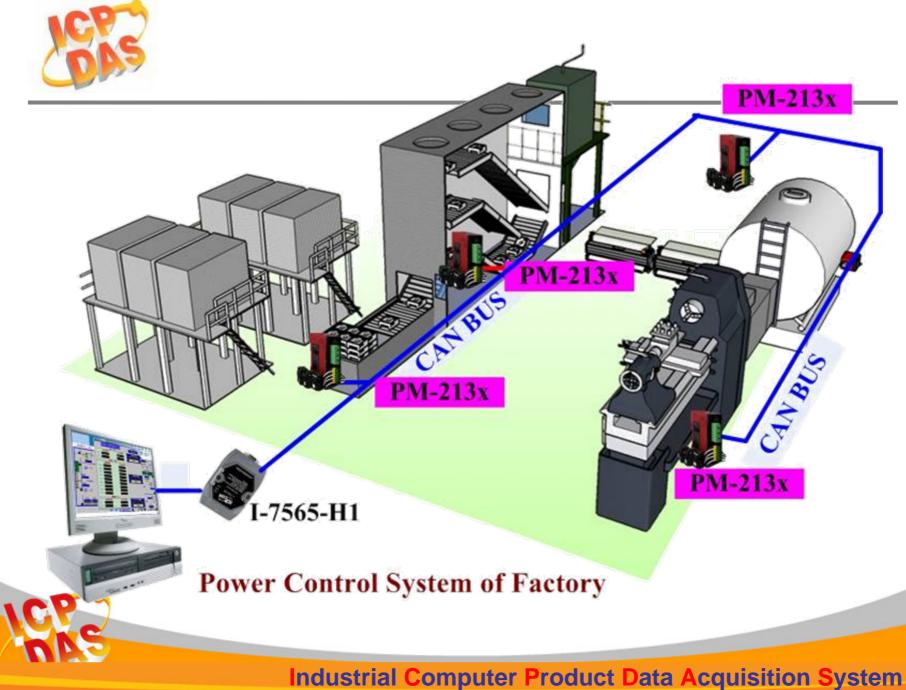






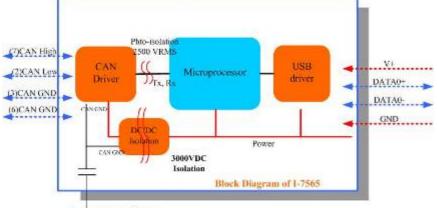
Power Control System of Building





High protection and Certification

- DC/DC power supply to galvanically isolated bus drivers
- Photo-isolation protection on bus
- 4KV ESD protection
- •CE, FCC certification



Frame Ground





The Advantage in ICP DAS

- All kinds of CAN total Solutions
- DeviceNet/CANopen protocol series
- CAN ODM products
- Good technology support Team





Best Service



More Information in the CAN bus Website

http://www.icpdas.com/products/Remote_IO/can_bus/can_intro.htm

