sonepar
Powered by Difference

masibus

Data Acquisition







Masibus DAQ Range of Products

AI-4 CH

AI-8 CH

AO-8 CH

DI-16 CH

DO-16 CH

85XX+

DAQ Products

- IO Cards for IIoT & PLC/DCS (MINT)
- Wireless Products
- Scanners & Data Loggers
- Protocol Converters
- IoT Gateway
- Solar String Monitoring Module
- Data Acquisition Software

8208

8204

8040

MSC-ME-MS

MSC-ME-ZB

MSC-ZB-RS

MSG-21

MSC-PS-MS

MSC-RE-RS

All Masibus DAQ & other Products are IIoT Ready

What is IoT?

The Internet of Things (IoT) describes the network of physical Objects/Things-that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet.

IoT Application can be classified broadly in Commercial & Industrial Domain as below

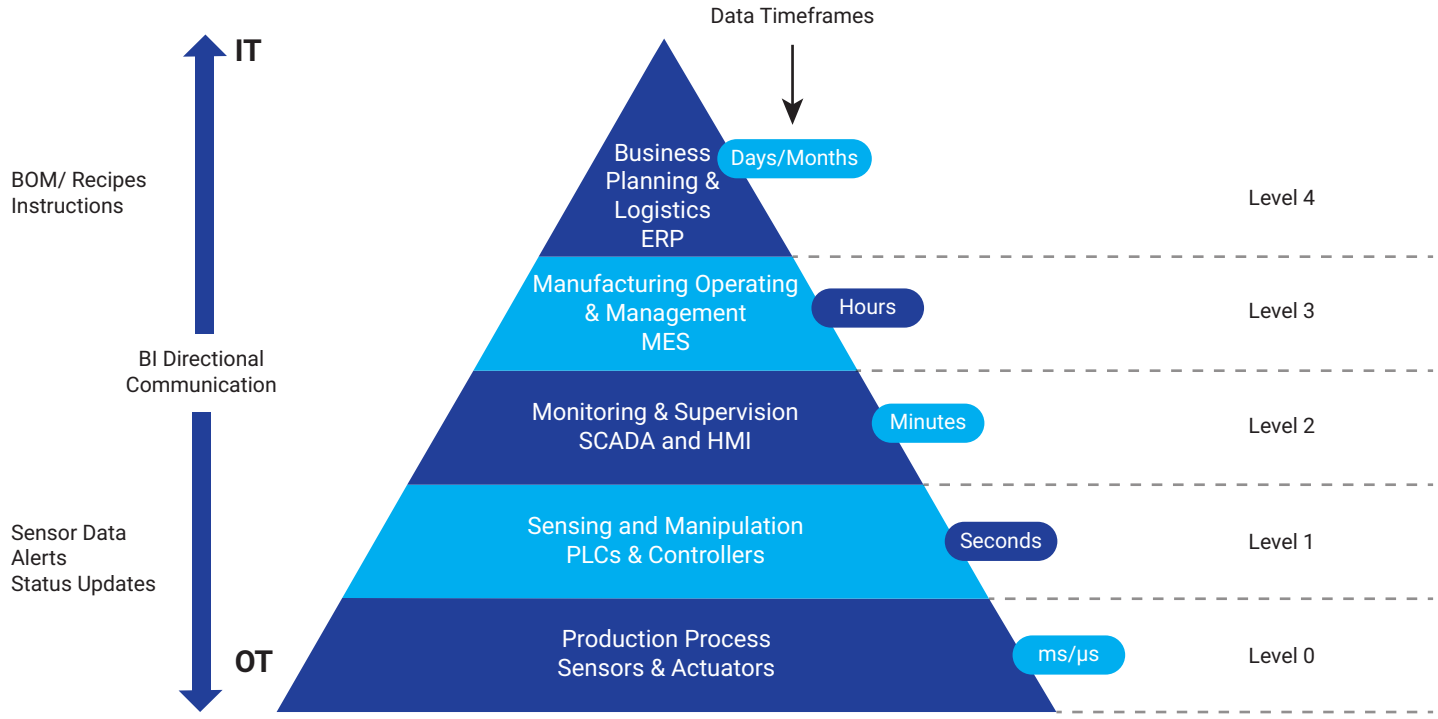
Consumer IoT

Consumer IoT solutions are focused on individual users or families through the use of wearables (e.g. Smart Watch), smart home applications, and personal monitoring/assisting devices (e.g. Mobile Phone). A suitable example are voice smart assistants such as Amazon's Echo, Google's Home, and Apple's HomePod; in other words, products that make our lives easier by performing tasks or services for us, It's the network of connected devices and systems that can communicate and exchange data with each other.

Industrial IoT (IIoT)

Unlike Consumer IoT, Industrial IoT targets existing automated industrial systems looking for dramatic improvements in productivity and efficiency. The most common IoT requirements comes from large scale factories or manufacturing plants, IoT also comes into picture for monitoring utilities and expensive assets. The IoT and IIoT ecosystem is growing and will keep growing more than exponentially in future . For this reason, we have to make sure that we choose the right products with suitable connectivity and functionality for our solutions in order to bring the sensor data to the supervisory level for suitable monitoring and decision making , the product should be having scalability feature to integrate more device in future with proper industrial handshaking & protocol.

Automation Pyramid



Industrial Internet of Things (IIoT)

Industrial IoT

MANUFACTURING
- OEE Monitoring (Runtime, Availability, Quality Monitoring)
- Energy Efficiency
- Preventive & Predictive Maintenance
- Supply Chain Management

MINING / OIL & GAS
- Equipment Monitoring
- Asset Tracking
- Production Monitoring

AGRICULTURE
- Environmental Monitoring
- Irrigation Management
- Product Yield Monitoring
- Water Management

UTILITIES
- Smart Meters
- Electrical Grid Management
- Power line Monitoring
- Water & Waste Management

SMART CITIES
- Smart Parking
- Environmental Monitoring
- Roads, Traffic & Transport
- Social & Security

BUILDING AUTOMATION
- Access Control
- Energy Efficiency, Safety, Security
- HVAC
- Living Assistance

Commercial IoT

HOSPITALITY
- Energy Efficiency & HVAC
- Location based Information
- Occupancy Monitoring
- Customer Service Scoring

HEALTHCARE
- Cold Chain Monitoring
- Patient Monitoring
- Virtual Cane
- Wellness & Prevention

RETAIL
- In-store Promotions
- Shopper Analytics
- Smart Ordering & Payment
- Vending Machines

I/O Cards from Masibus (MINT)

Analog Input

8 CH

Analog Output

8 CH

Digital Input

16 CH

Digital Output

16 CH

RoHS

MINT IO's comes with below different options

1 RS-485 + Ethernet Port
2 RS-485 Port

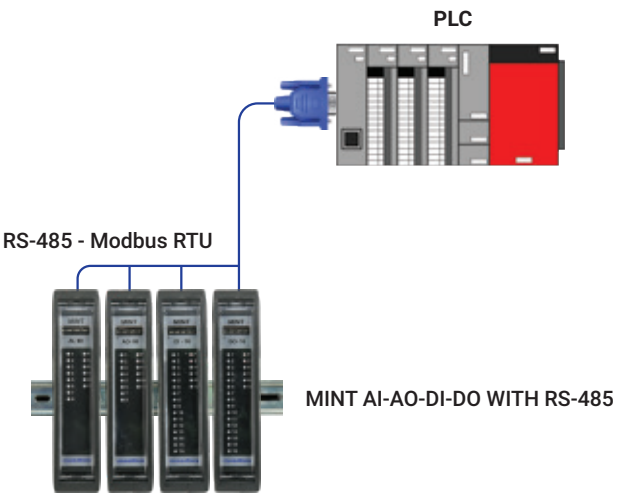
Protocol support - Modbus RTU
Modbus TCP I/P

Can be connected with any make of PLC-CPU as I/O Card

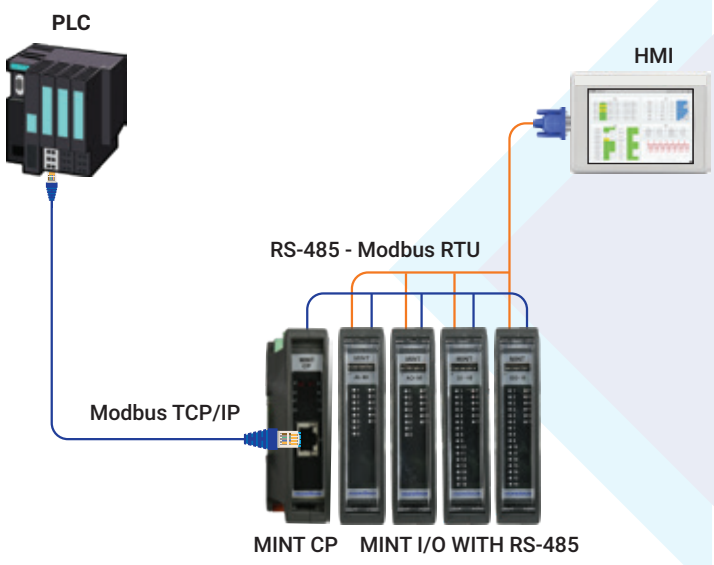
Can be connected as Data Concentrator/Collector for IIoT Application

MINT IOs				
Model	8-AI	8-AO	16-DI	16-DO
Channels	8	8	16	16
Type	RTD/TC/ Voltage/Current (Universal)	Voltage/Current	24V DC input	Open collector 24VDC sink/ source 100mA per O/P
Isolation	Supply to field: 1500VAC RMS, Supply to RS-485: 1500VAC RMS, Field to logic: 1500VAC RMS			
Scan Time	RTD-100ms/Ch. Other-50ms/Ch.	All 8 Ch. in <500ms	500 µs	Configurable
Resolution/ Accuracy	16 bit ADC 0.1%	16 bit DAC 0.05%	1 KHz 32 Bit Counter	10ms Pulse O/P

PLC with IOs on RS-485 - Modbus RTU

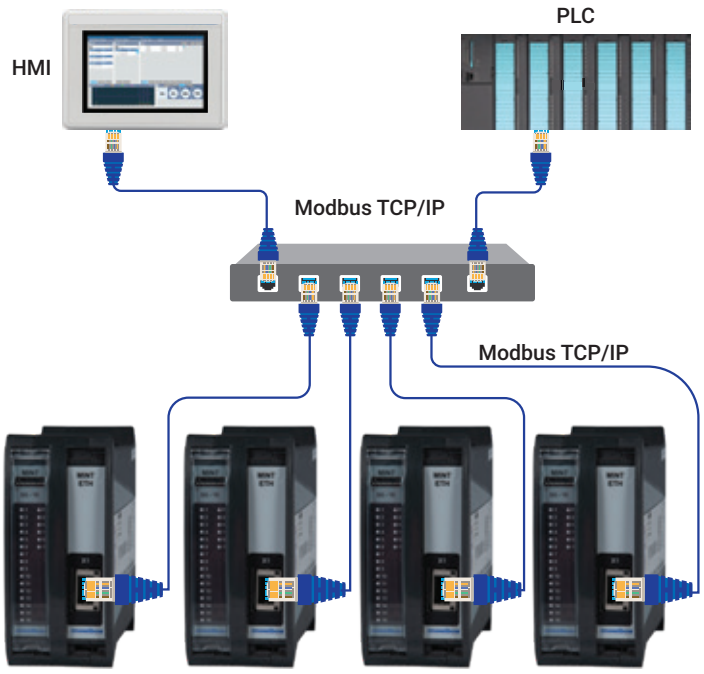


Mint CP with I/O on Modbus TCP/IP to PLC & Mint IO's to HMI on RS-485-Modbus



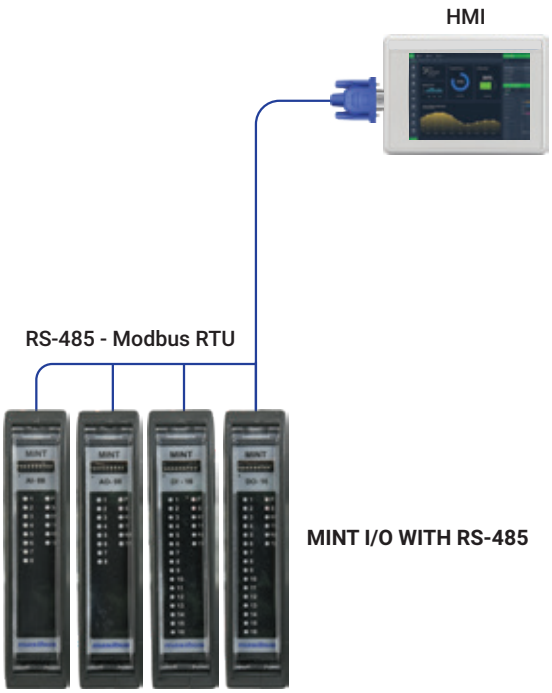
Application Examples

PLC/HMI as Multiple Clients Connect to MINT Ethernet IO on Modbus TCP/IP



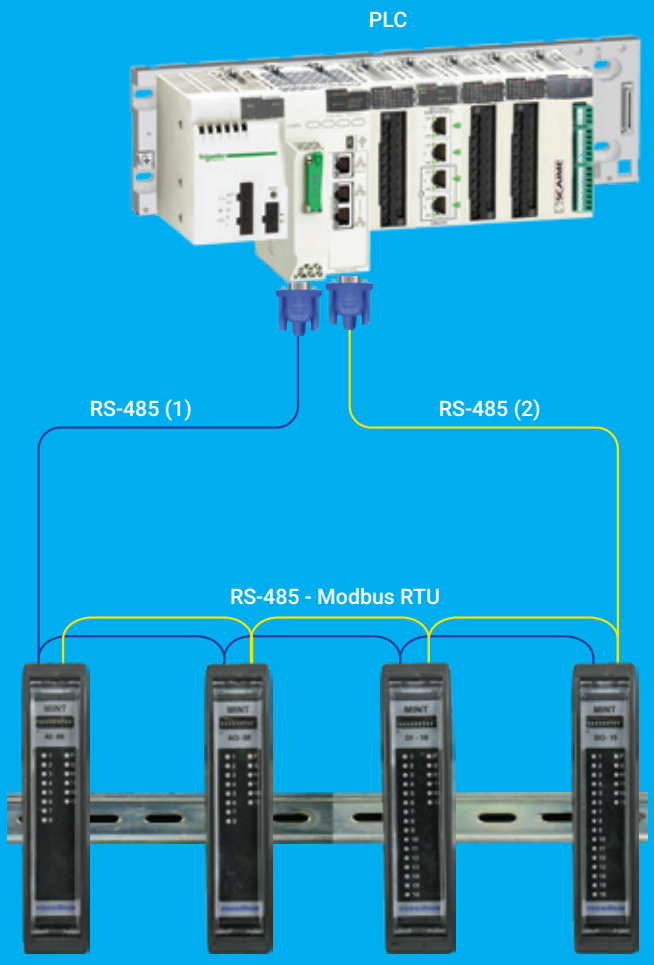
MINT ETHERNET I/O WITH MODBUS TCP/IP

MINT IO's to HMI on RS-485-Modbus



MINT I/O WITH RS-485

PLC with IOs on RS-485 - Daisy Chain



MINT AI-AO-DI-DO WITH RS-485

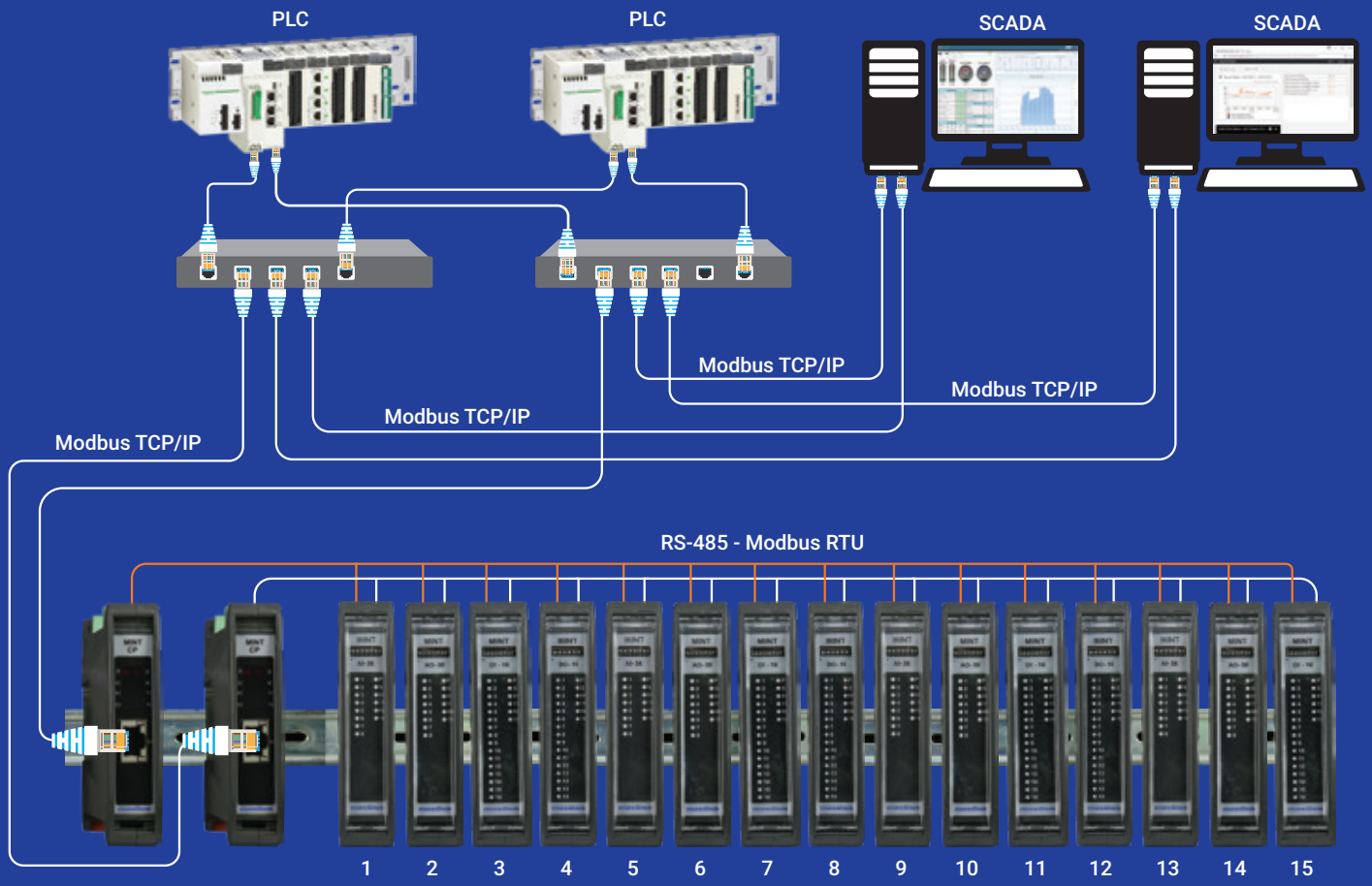
Application Examples

Communication Processor for MINT I/O

MINT-CP

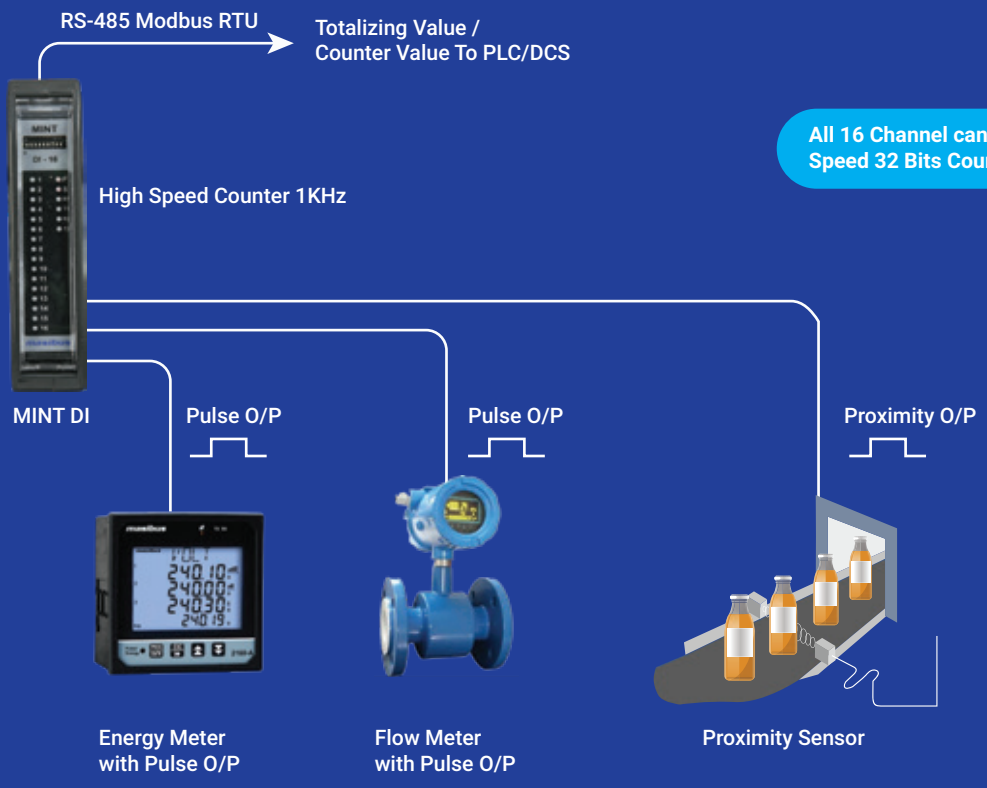
Performance	
Maximum No. of Read Registers	1024
Maximum No. of Write Registers	1024
Maximum No. of Modbus Commands Supported	100
No. of Slave Devices Supported per Serial Port	No. of Modbus devices supports on serial port - 15
No. of Clients Supported on TCP/IP	Up to 15
Communication	
RS-485 Serial Port	2 Nos.
Protocol	Modbus-RTU slave
Ethernet Port	1 Nos.
Protocol	Modbus TCP/IP (Modnet)

Configuring MINT I/O as Redudant I/O System

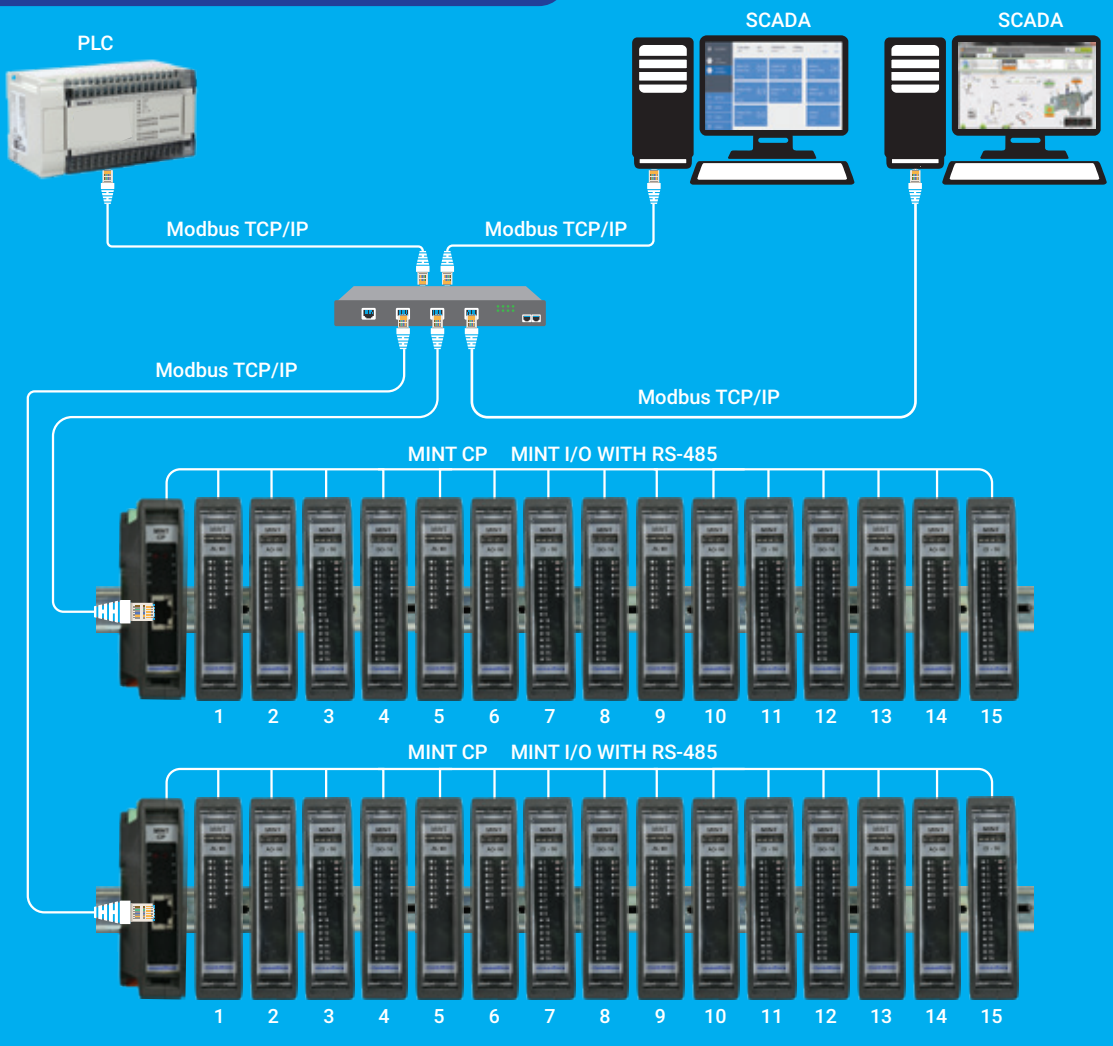


Application Examples

MINT-DI as 1 KHz High Speed Counter



Configuring a larger I/O Systerm with MINT I/O



Scanner & Data Logger

8204
(4-Channel Scanner)

8208
(8-Channel Scanner)

85XX+
(8/16/24-Channel Scanner & Data Logger)

8040
(128-Channel Data Logger)

8208-IP
(8-Channel Weather Proof Scanner IP-65 Enclosure)

8208-XP
(8-Channel Ex-Proof Scanner for Hazardous Areas)

Scanner & Data Logger

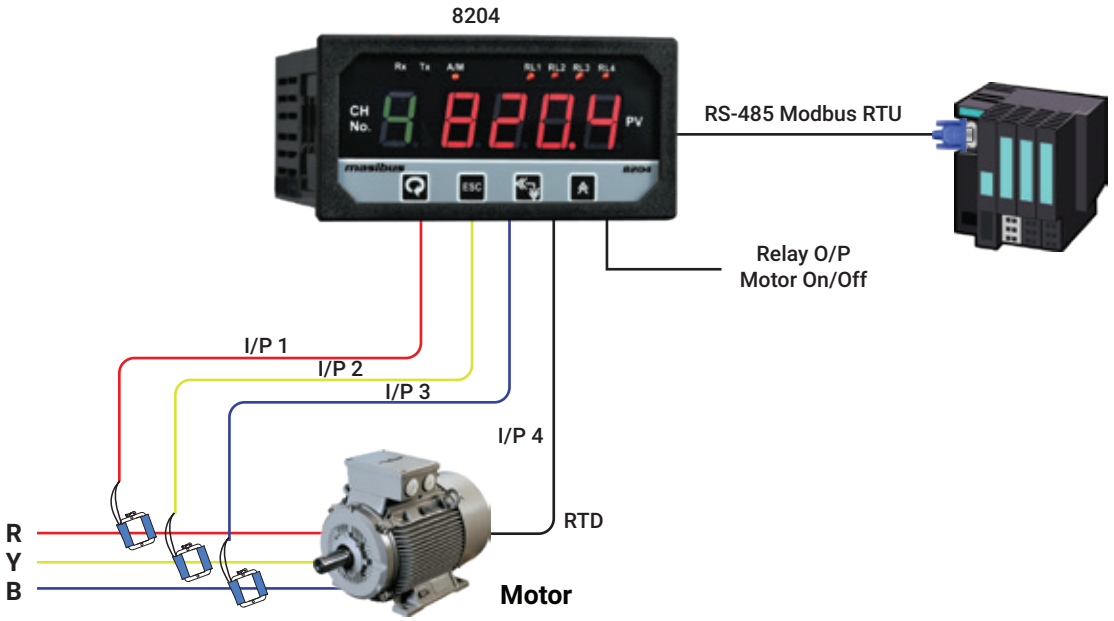
Scanner & Data Logger							
Model		**8204** 4-Ch. Scanner	**8208** 8-Ch. Scanner	**85XX+** 8/16/24-Ch. Scanner & Data Logger	**8040** 128-Ch. Data Logger	**8208-IP** 8-Ch. Weather Proof Scanner IP-65 Enclosure	**8208-XP** 8-Ch. Ex-Proof Scanner for Hazardous Areas
Input	**AI**	4	8	8/16/24	16 to 128	4/8	4/8
	DI	-	-	16	-	-	-
Output	**RL**	4	4	8/16	16	4	4
	OC	-	-	24	32	-	-
	AO	1	1	8	-	1	1
Serial Port RS-485		1	1	2	2	2	2
Ethernet (ModbusTCP/ProfiNet /EthernetIP)		-	-	1	1	-	-
Profibus DPV0		-	-	1	-	-	-
USB Pendrive Port		-	-	1	1	-	-
Input Scan Time		1 Sec.	1 Sec.	1 Sec.	3.2 Sec.	1 Sec.	1 Sec.
Internal Data Log Memory		-	-	32 MB	32 MB	-	-
Isolation		Power to Field 1500VAC Field to Communication 1500VAC Power to Communication 1500VAC		Channel to Channel 125VAC/300VDC Power to Field 1500VAC Field to Communication 1500VAC Power to Communication 1500VAC		Power to Field 1500VAC Field to Communication 1500VAC Power to Communication 1500VAC	
Enclosure		ABS 1/8 DIN mount	ABS 1/4 DIN mount	Steel Sheet Powder Coated	19' Sub-Rack	Steel Sheet Powder Coated IP65	Aluminium Alloy LM-6 Gas Groups IIA & IIB, IP65, Zone: 1, 2 Optional IIC
Connections		Screw Terminals	Screw Terminals	Prefab Cables & Field Interface Module (Option) 	Prefab Cables & Field Interface Module (Option) 	Cable Gland	Cable Gland

m SCAN+ CE Modbus Over RS485 Modbus TCP/IP

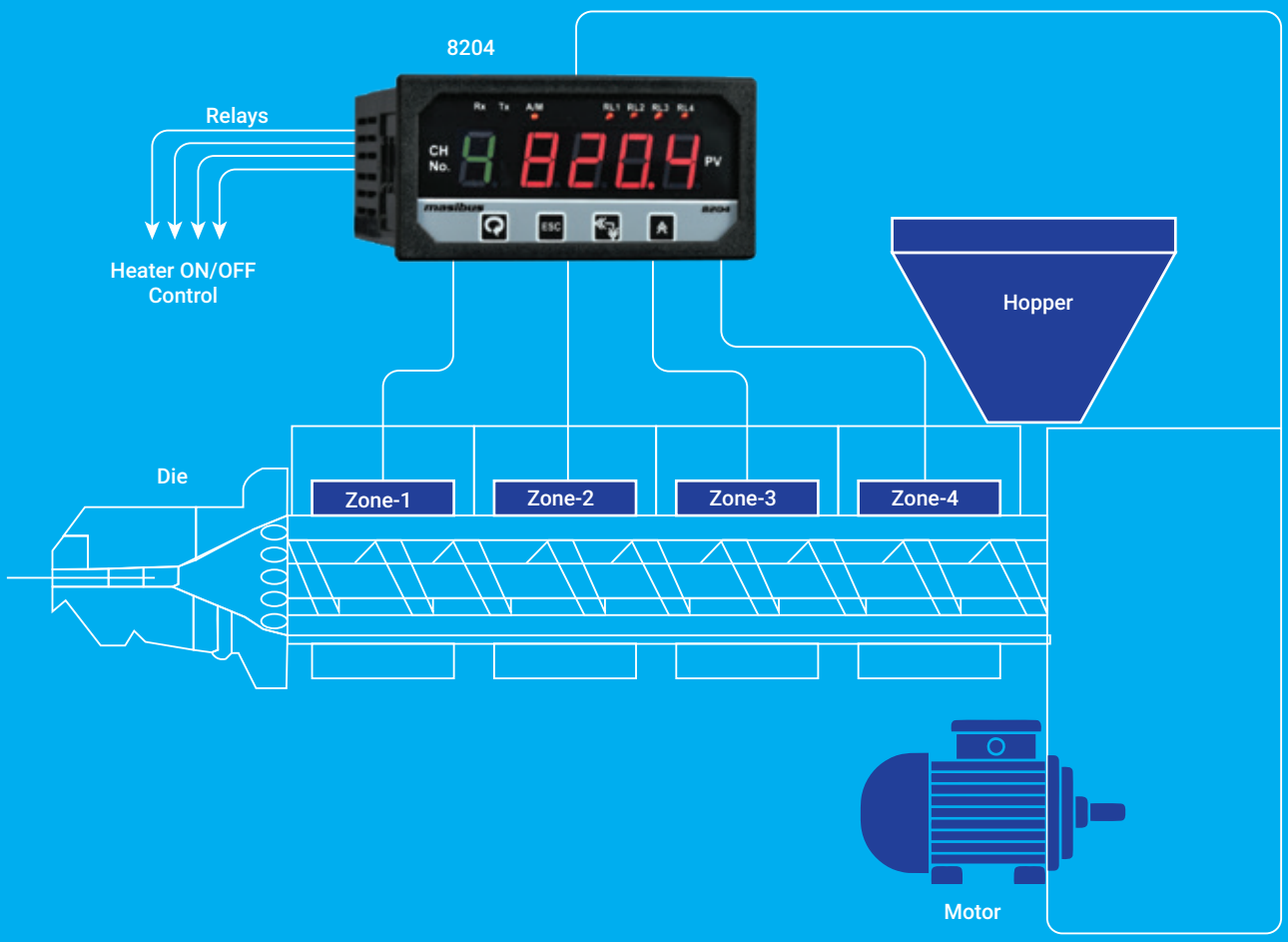
PROFINET PROFIBUS EtherNet/IP

Application Examples

Motor Current, Temperature Monitoring & Control

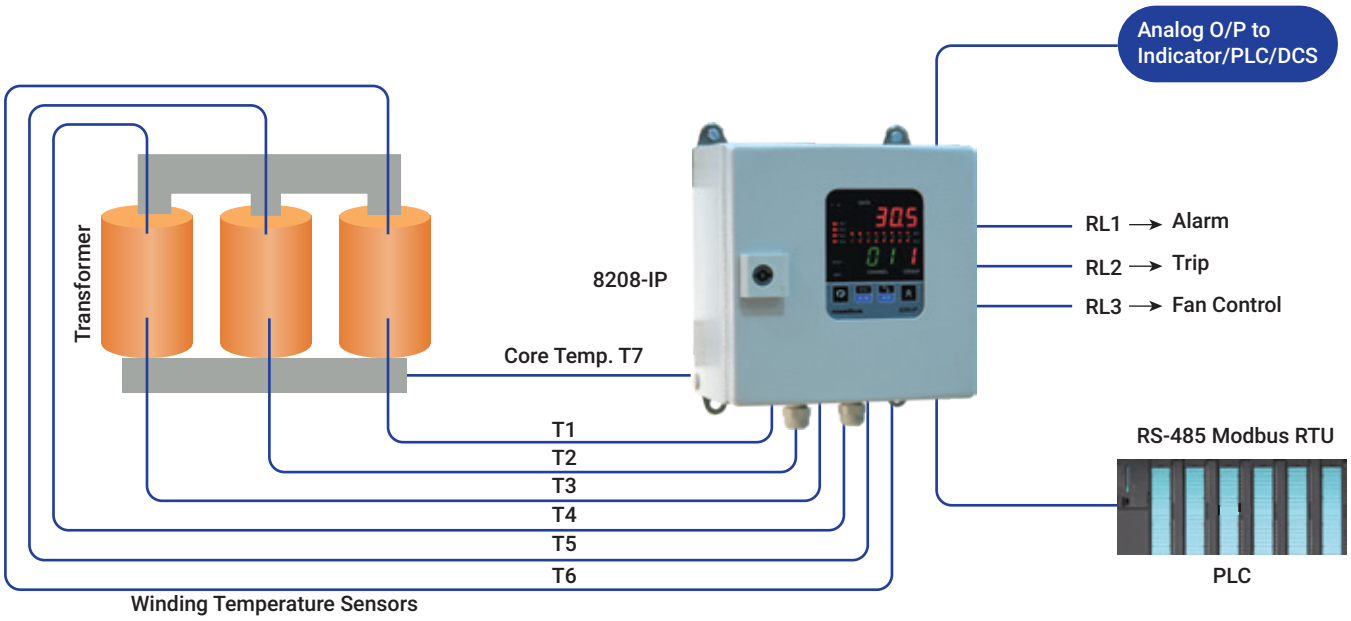


Berrel Zones Temperature Monitoring & Heater Control for Plastic Extrusion Machines

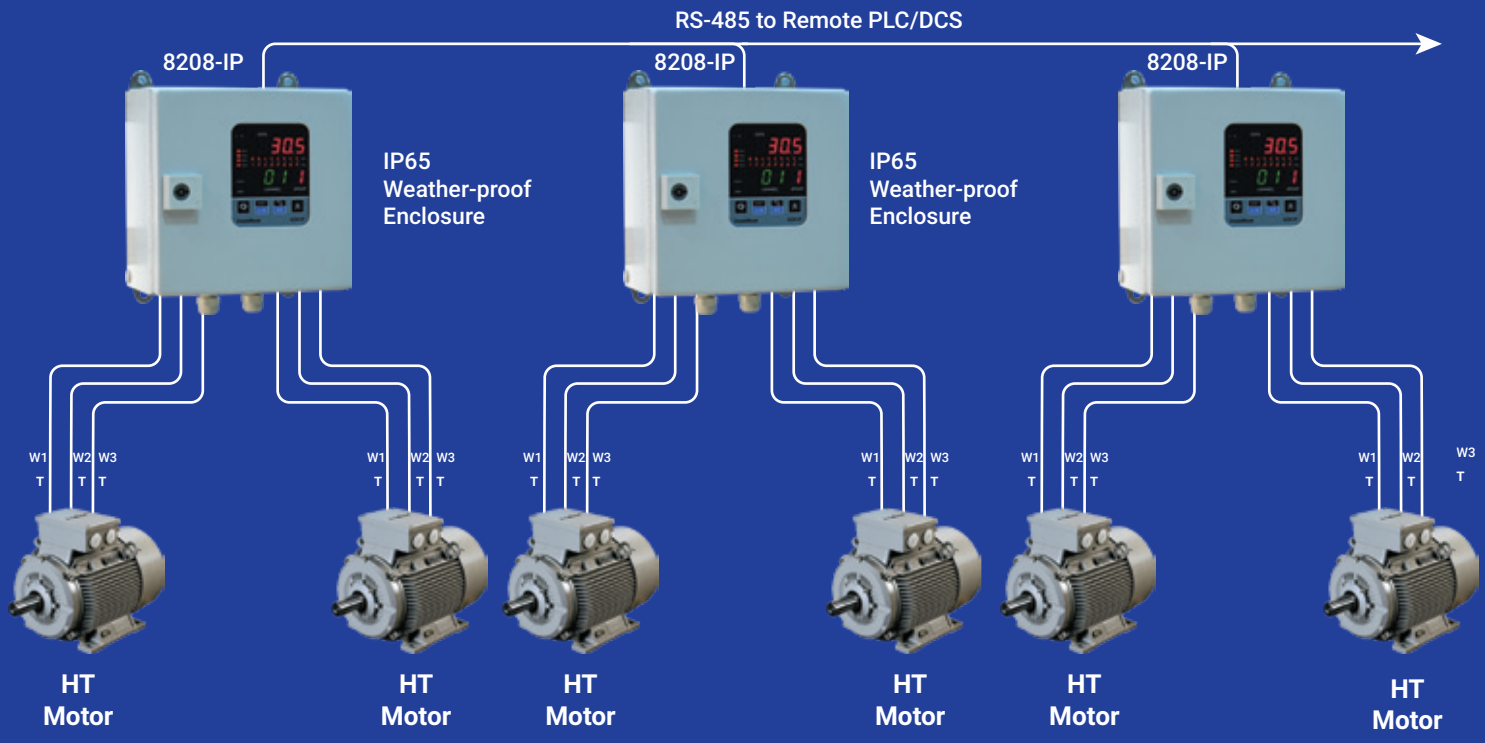


Application Examples

8208-IP as Transformer Protection Relay

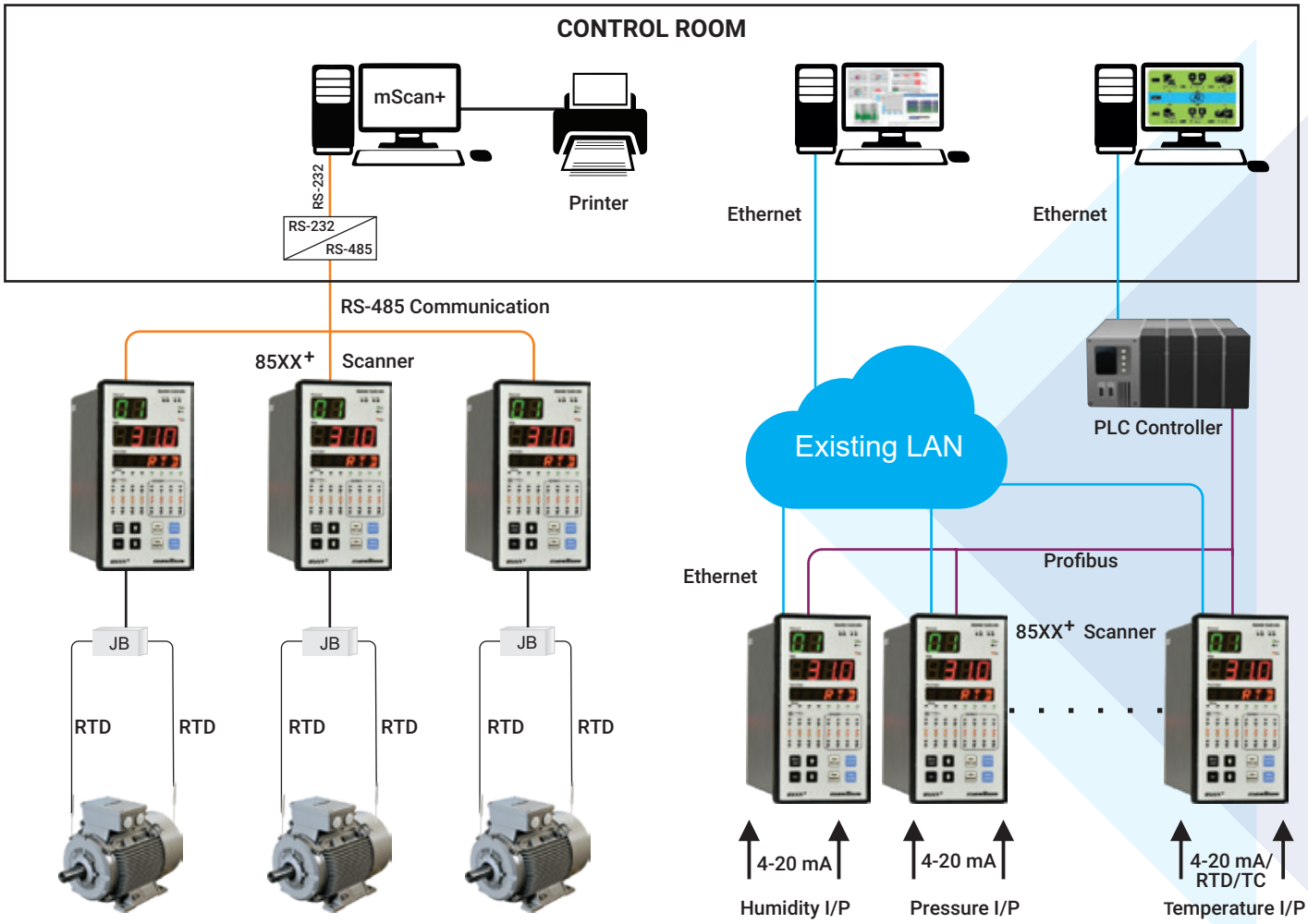


Motor Temperature Measurement & Protection

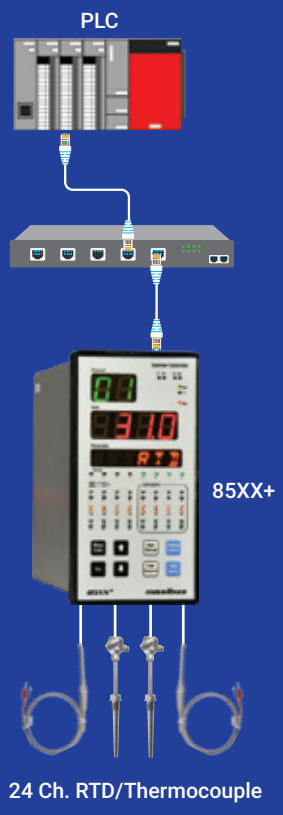


Application Examples

Motor Temperature Measurement and Protection

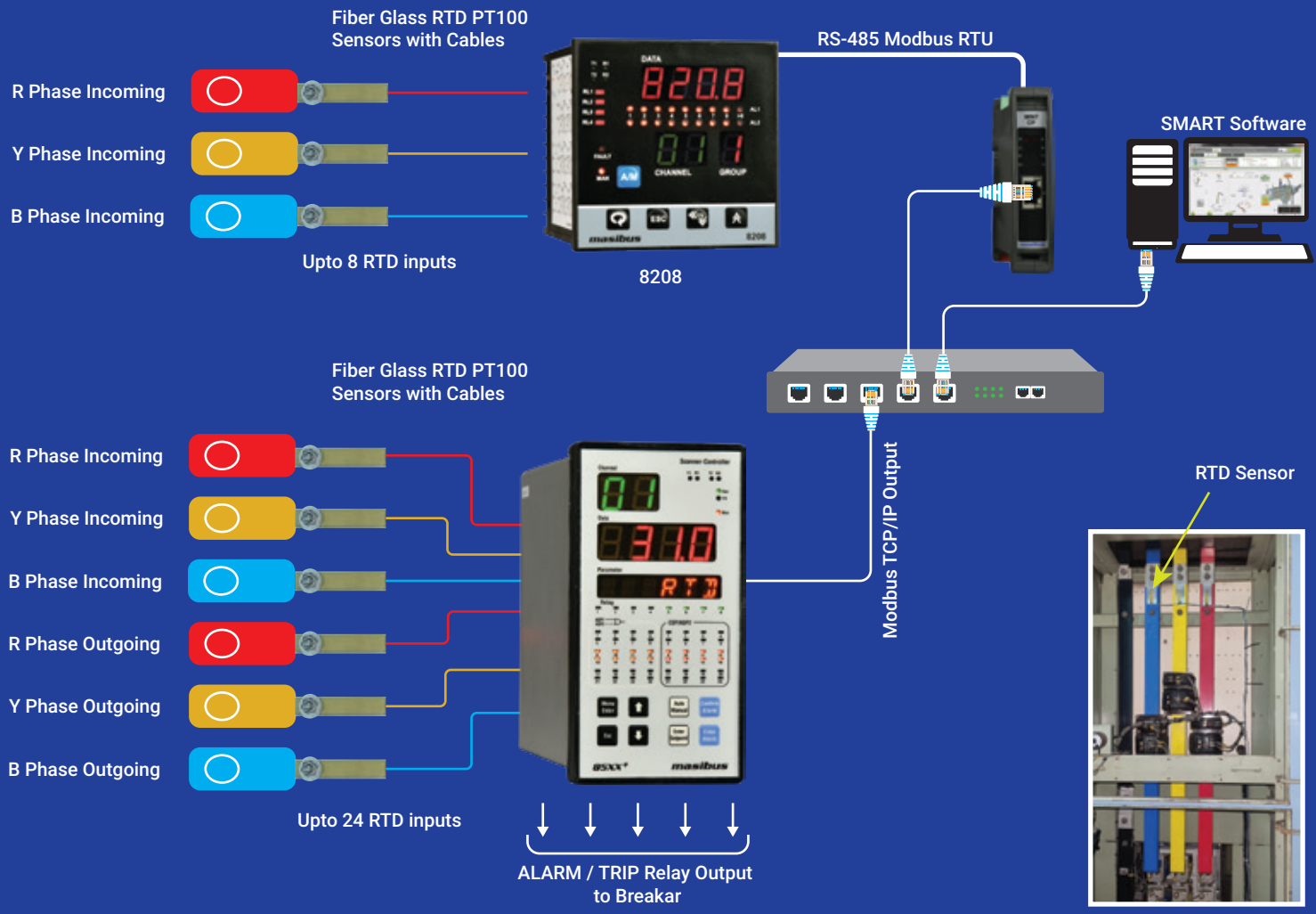


85XX+ as 24 Channel Analog I/O Module for any PLC/DCS

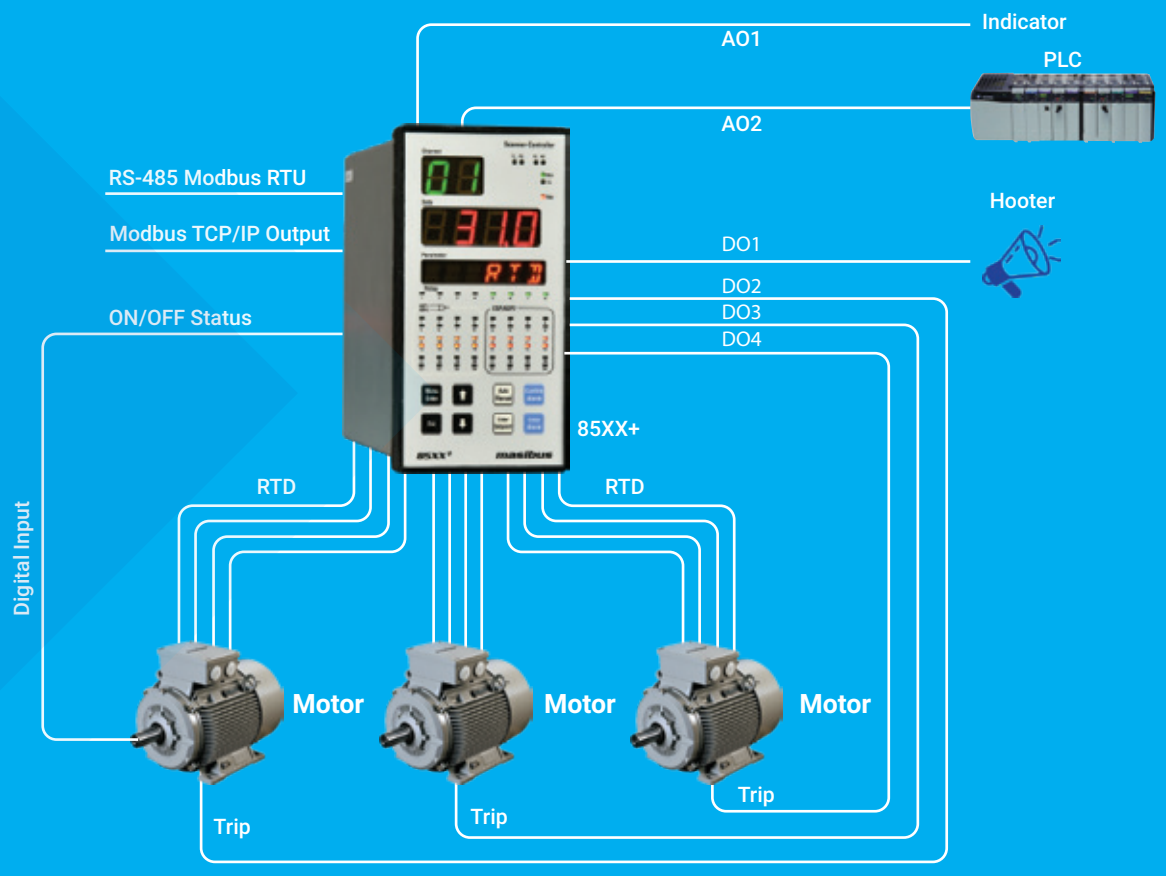


It can eliminate 3 RTD/ 3 Thermocouple
& 16 Ch. DO PLC I/O Cards

Busbar Junction Temperature Monitoring for Preventive and Predictive Maintenance of LT Distribution Panels

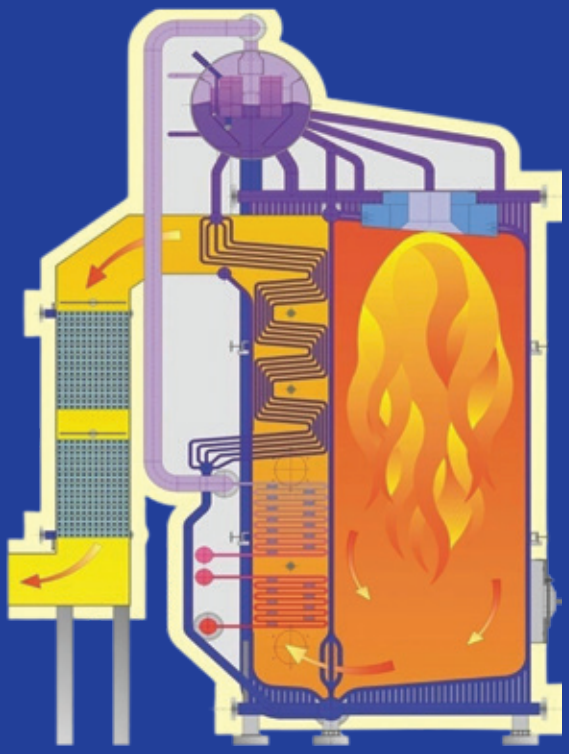


Configuring 85XX+ for 16-Digital Inputs 8-Relay Outputs & 24-Analog Inputs



8040 Data Logger Applications

8040

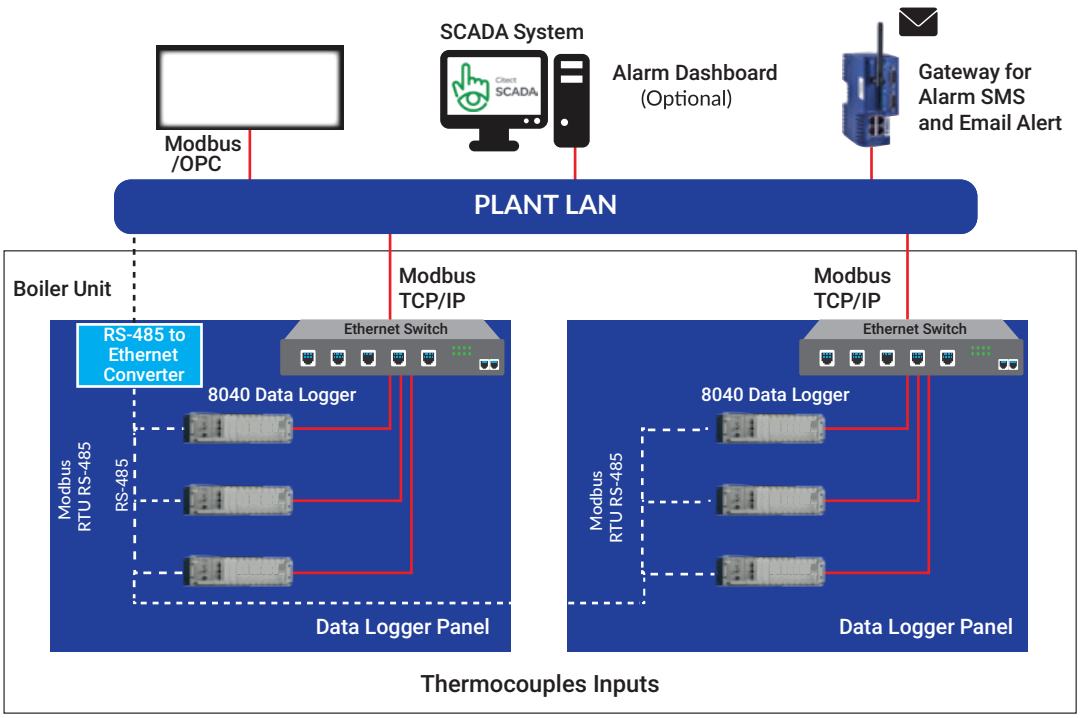


Boiler

Benefits

- 128 Channel Universal Input
- Channel to Channel Isolation
- 3 Second update rate
- 32 MB Internal Memory
- Periodic & Event based Data Logging
- RS-485 & Ethernet Communication Port available

Boiler Tube Temperature Monitoring System



Avoid Unscheduled Outage

Availability & Tube Life

Reduce Secondary Damage

Identify Inefficient Heat Transfer

Increase Operating Profit

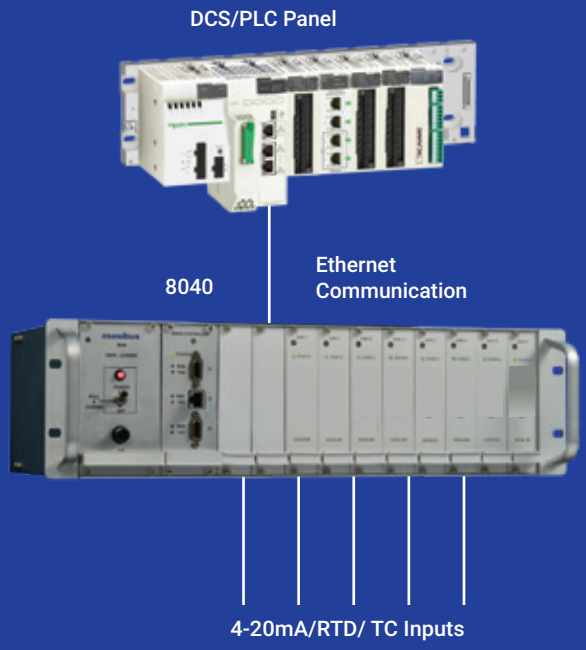
Plug & Play Solution

Easy Integration with Third Party System

High Price Performance Index

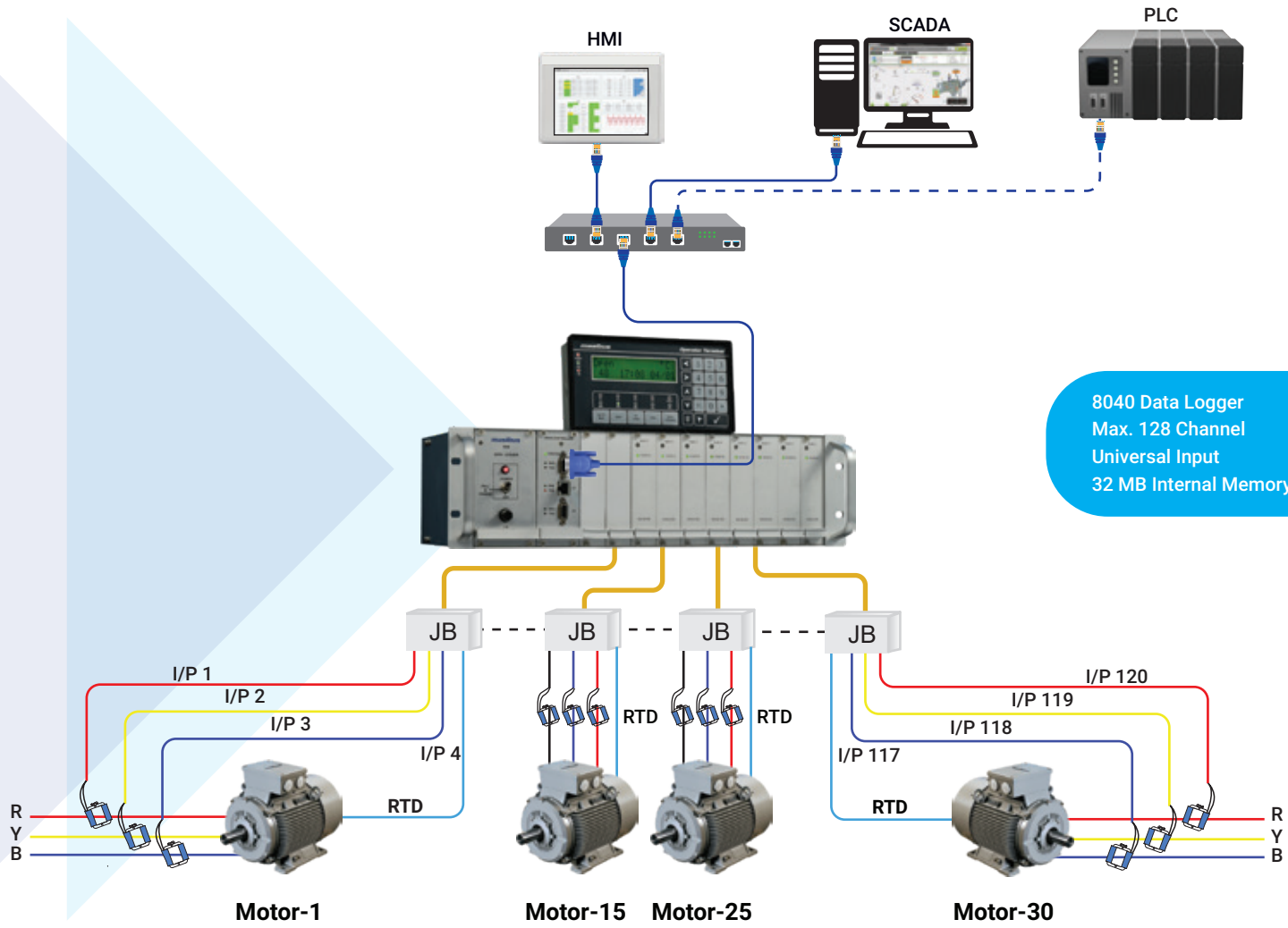
Application Examples

8040 as 128 Channel Analog I/O Module for DCS/PLC



- It eliminates 16x8=128 channel AI card & associated power supply, rack, panels from DCS Panel
- Cost saving approximately 1 million INR

Current & Temperature Monitoring of Multiple Motors in a Plant



8040 Data Logger
Max. 128 Channel
Universal Input
32 MB Internal Memory

Protocol Converter & Wireless Products

MSC-ME-MS
(Modbus Serial to Modbus
TCP/IP Data Concentrator/Gateway)

MSC-ME-ZB
(Modbus-Zigbee to Modbus
TCP/IP Data Concentrator/Gateway)

MSC-ZB-RS
(RS-485 Serial to ZigBee
Wireless Converters)

MSC-RS-RS
(Isolated RS-485 to RS-485 Repeater)

MSC-RE-RS
(Modbus Serial to Modbus
TCP/IP Protocol Converter)

MSG-21
(IIoT Gateway)

SBM-S-1225
(08-12-16-20 String Box Monitor)

mUSB232
(USB to RS-232 Converter)

mUSB485
(USB to RS-485 Converter)

Zigbee Offerings

What is Zigbee ?

Zigbee is a wireless technology developed as an open global market connectivity standard to address the unique needs of low-cost, low-power wireless IoT data networks. The Zigbee connectivity standard operates on the IEEE 802.15.4 physical board radio specification and operates in unlicensed radio band 2.4 GHz.

Zigbee Protocol Features Include

- Support for multiple network topologies such as point-to-point, point-to-multipoint and mesh networks
- Low duty cycle - Provides long battery life
- Low latency time
- Direct Sequence Spread Spectrum (DSSS)
- Up to 65,000 nodes per network
- 128-bit AES encryption for secure data connections
- Collision avoidance, retries and acknowledgement

Zigbee signal range upto 100 meters indoor and upto 1 KM outdoor with clear line-of-sight (LoS) without obstacles.
RF range extension also possible via adding Zigbee repeaters in the existing network (Mesh network)

MSC-ME-ZB
(Modbus-Zigbee to Modbus
TCP/IP Data Concentrator/Gateway)

MSC-ZB-RS
(RS-485 Serial to ZigBee
Wireless Converters)

MSC-ME-ZB

Features

- Supports upto 64 Modbus RTU Slave devices on RS-485 & ZigBee
- Number of Master Ports (Modbus RTU): 1 RS-485 (Wired) & 1 ZigBee (Wireless) - Only one active at a time
- ZigBee Topology: Point-Point/Point-Multipoint/Mesh
- Modbus TCP/IP (ModNet) - 10/100Mbps- Auto detecting
- No. of Client supports on Modbus TCP/IP (ModNet) - Up to 15
- Supports up to 192 commands or 2048 Read/1024 Write Registers on Modbus

MSC-ZB-RS

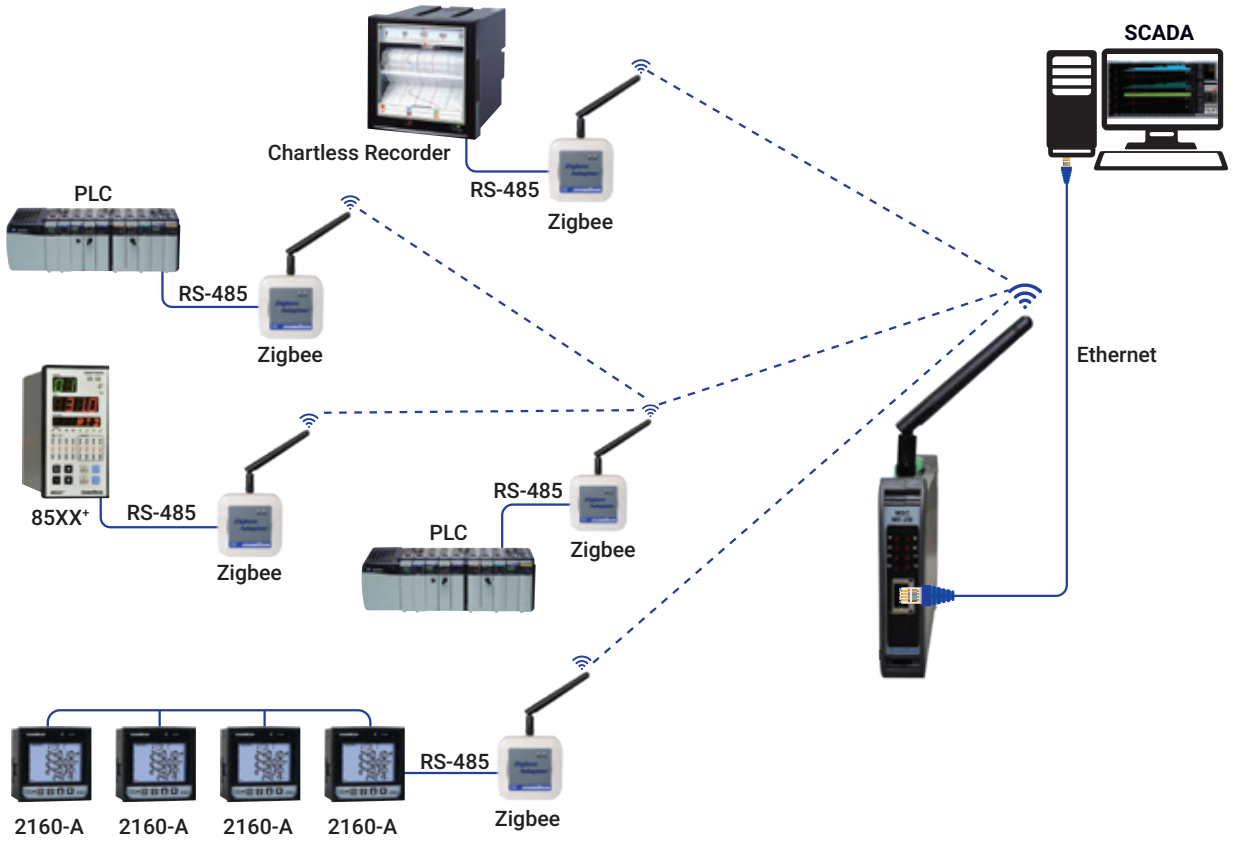
Features

- Number of Ports: 1 RS-485 (Wired) & 1 ZigBee (Wireless)
- ZigBee Topology: Point-Point/Point-Multipoint/Mesh
- Router/Co-ordinator/Aggregator/Master/ Slave configuration through MSC studio
- MSC-ZB-RS (Router/Slave) can connect toMSC-ME-ZB or MSC-ZB-RS (Co-ordinator/Master)
- Wireless range extension possible through router

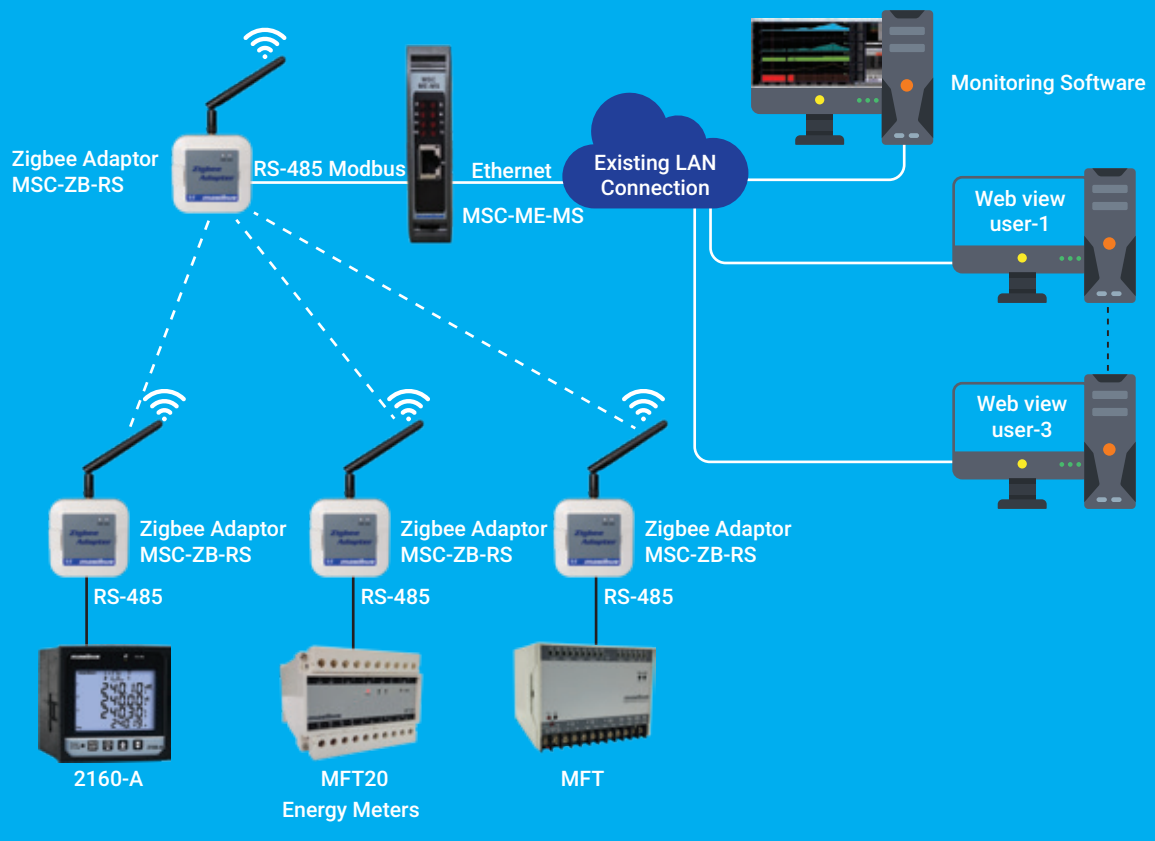
Application Examples

Connecting 64 Modbus Devices Wirelessly Inside a Plant

100 Meter Indoor/ Upto 1 KM Outdoor (LOS)



Connecting Devices Wirelessly for EMS Solution



Protocol and Media Converters

Protocol Converters

MSC-ME-MS
(Modbus Serial to Modbus
TCP/IP Data Concentrator/Gateway)

Features

- It converts **Modbus Serial to Modbus TCP/IP**
- Supports max. upto 64 Modbus RTU slave devices on RS-485
- No. of RS-485 ports (Modbus RTU Master): 2 (Only one active at a time)
- Modbus TCP/IP (ModNet) - 10/100Mbps- auto-detecting
- No. of client supports on Modbus TCP/IP (ModNet) - Up to 15
- Supports upto 192 Modbus commands
- 2048 Read/1024 write registers on Modbus

Features

- Supports max. upto 247 Modbus RTU slave IDs.
- No. of RS-485 ports (Modbus RTU master): 1 No.
- Modbus TCP/IP (ModNet) - 10/100Mbps- Auto detecting
- No. of client supports on Modbus TCP/IP (ModNet) - Up to 4 No.
- Not required any Modbus query Mapping/Configuration

MSC-RE-RS
(Modbus Serial to Modbus
TCP/IP Protocol Converter)

Media Converters

Features

- RS-485 half duplex communication
- Communication speed (Baud rate) 1200 - 115200 bps
- Auto baud rate detection
- Signal boost up to 1200m (Depends upon baud rate)
- Maximum 31 RS-485 nodes per repeater
- 1Ω0 termination resistor selection
- Isolation 1500VAC RMS

MSC-RS-RS
(Isolated RS-485 to RS-485 Repeater)

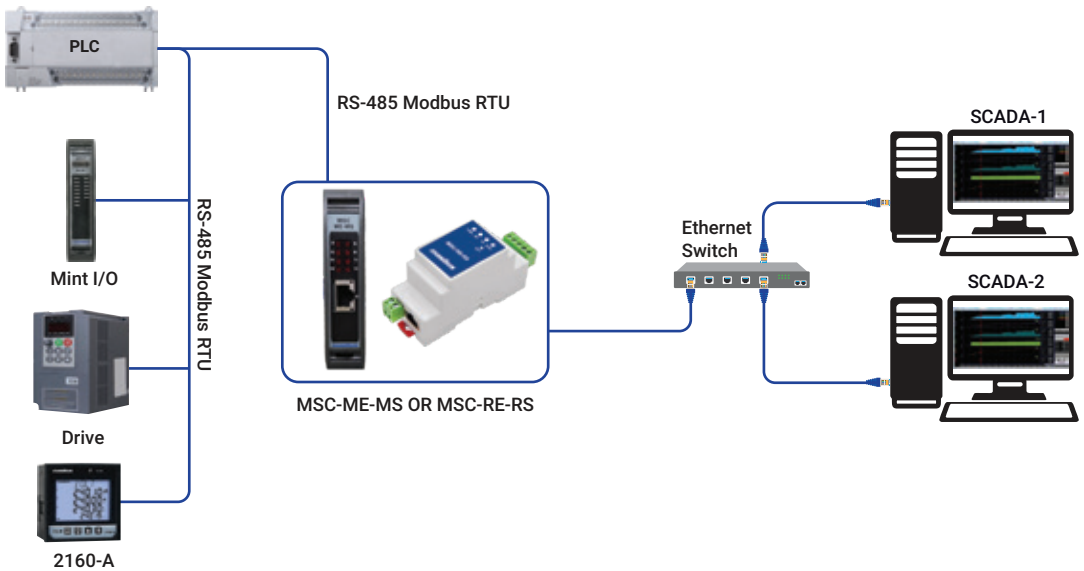
- Convert the signals to RS-232
- Port: 9 PIN DB male connector
- Output - RS-232 full handshaking

mUSB232
(USB to RS-232 Converter)

mUSB485
(USB to RS-485 Converter)

- Convert the signals to RS-485 level
- Outputs: D + / D -
- Maximum 32 nodes
- 120Ω termination resistor selection

MSC-ME-MS as Modbus Gateway OR MSC-RE-RS as Modbus Protocol Converter



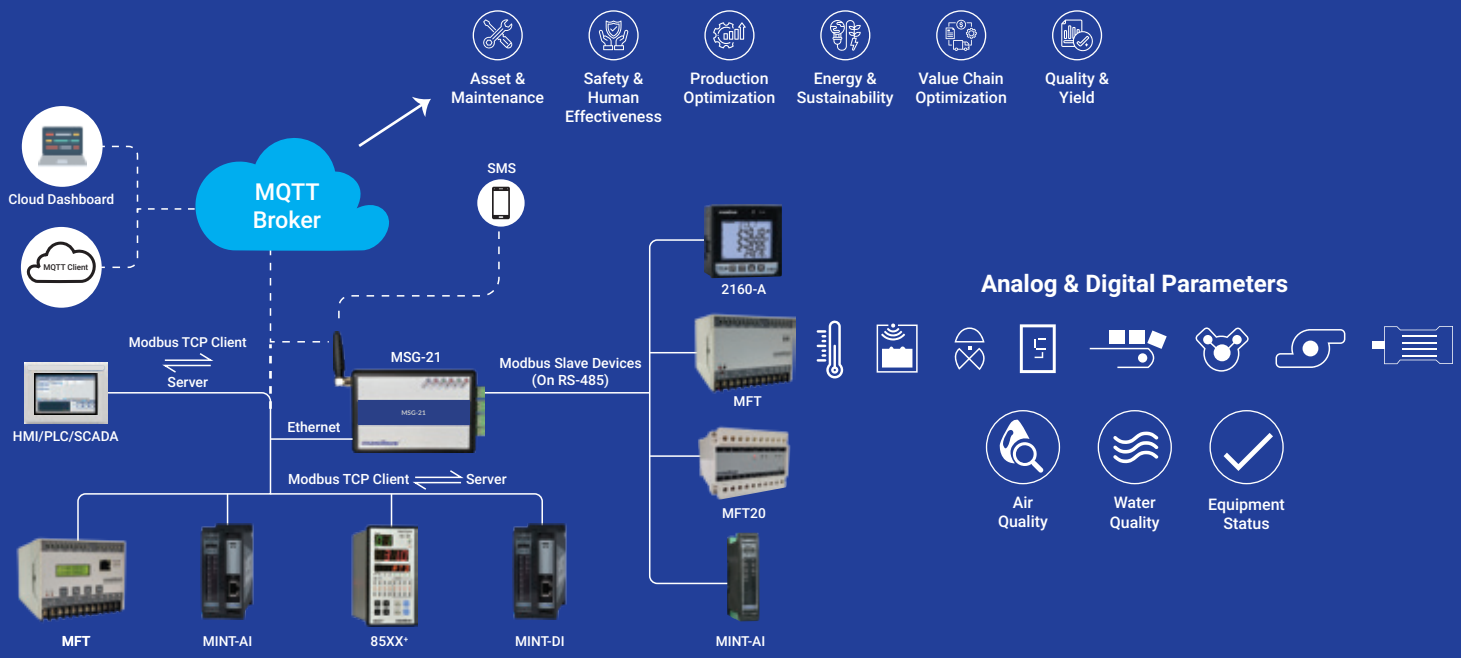
MSG-21 - IIoT Gateway Solution for any Modbus Slave Devices

Features

- 4G cellular or Ethernet (WAN) connectivity for MQTT broker
- Web server-based configuration for MQTT, Ethernet, Modbus RTU and Modbus TCP/IP
- Configurable MQTT (JSON) frame format
- Modbus TCP/IP Server Connectivity for HMI/PLC/SCADA
- Modbus TCP/IP client to read Modbus servers on ethernet
- Modbus RTU master to read Modbus RTU slaves on RS-485
- On board 2 Digital Inputs & 2 Digital Outputs operate remotely via SMS & MQTT
- Read Registers - Modbus RTU 512 Nos. & Modbus TCP/IP 256 Nos.
- Device Connection - Modbus RTU 32 Nos. & Modbus TCP/IP 8 Nos.
- Built-in 16MB memory to support back filling of time stamped data to server in the event of network failure

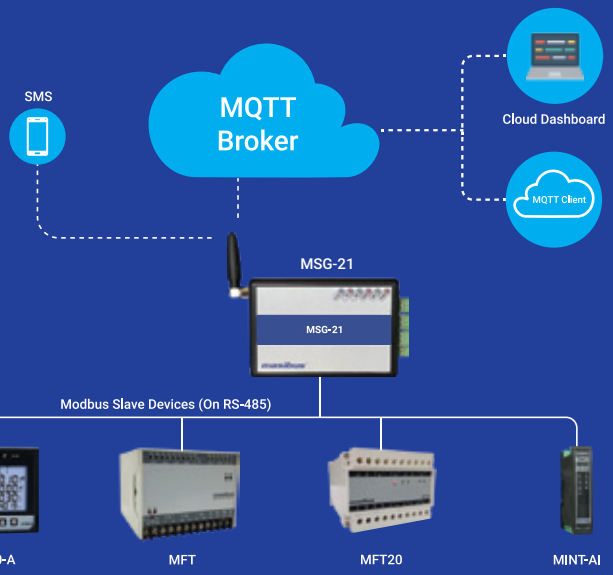
MSG-21

IIoT System for Remote Field Data Monitoring



Remote Energy Monitoring Of Electrical Systems

PCC Panel / Switchgear Panel



SMART 2.0 Software Tool for Reports, Alarms & Dashboards

Web Based | No Coding | 21-CFR Part-11 Compliance

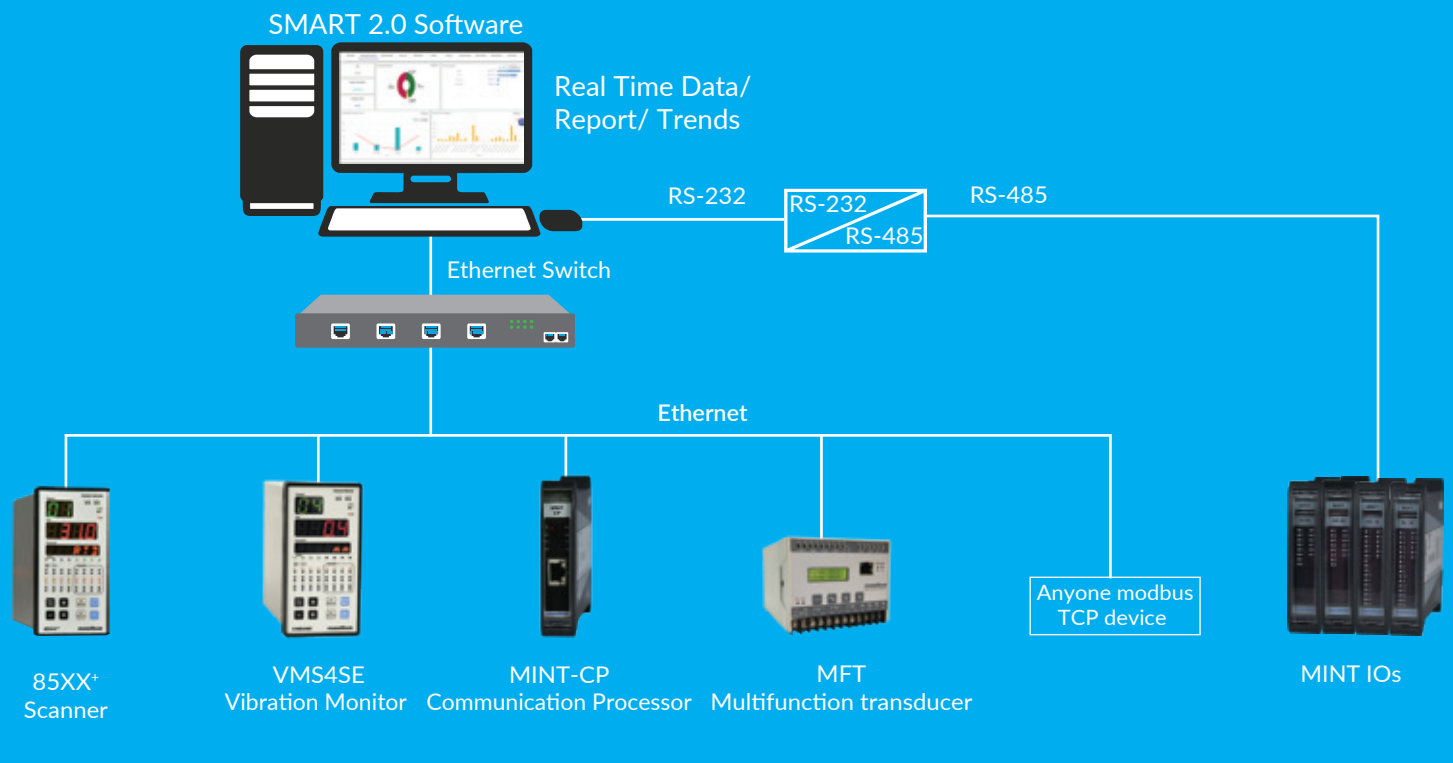
Features

- **Data Connector:** Modbus RTU, Modbus TCP/IP, OPC DA/UA
- **Masibus Device Templets:** All masibus devices connectivity (85XX⁺, MINT IO's, Bargraph, Controllers, Energy Meters, etc.)
- **3rd Party Devices:** Any device with Modbus RS-485/Modbus TCP-IP support
- **Server Compatibility:** On-Premises / VM
- **Data Monitoring:** Real time and Historical data monitoring
- **Dashboards Screens:** KPI dashboards: Tabular, Pie/Donut, Gauge, Line Chart, Bar Graph
- **Reports:** Daily, Weekly, Monthly, Yearly Reports
- **Alarms:** Alarm generation based on L/L-L/H/H-H set points
- **Trends:** Live & Historical trends
- **Email:** E-mail reporting and automatic scheduling
- **21-CFR Part-11 User Management:** Optional
- **Licensed software** - 64/128/256/512/1024 tags supports

Key Specifications

- Suitable for On-premises Server/PC and Virtual Machine
- Supports up to 25 dashboards
- Supports up to 50-tags per dashboard
- Connectivity to all Modbus devices
- 21-CFR Part-11 user management
- 5 Web View Clients

Data Monitoring & Logging

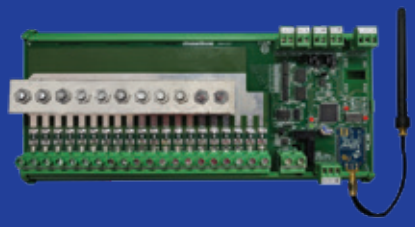


String Box Monitor (With Wired & Wireless)

String Box Monitor with Wireless ZigBee

Features

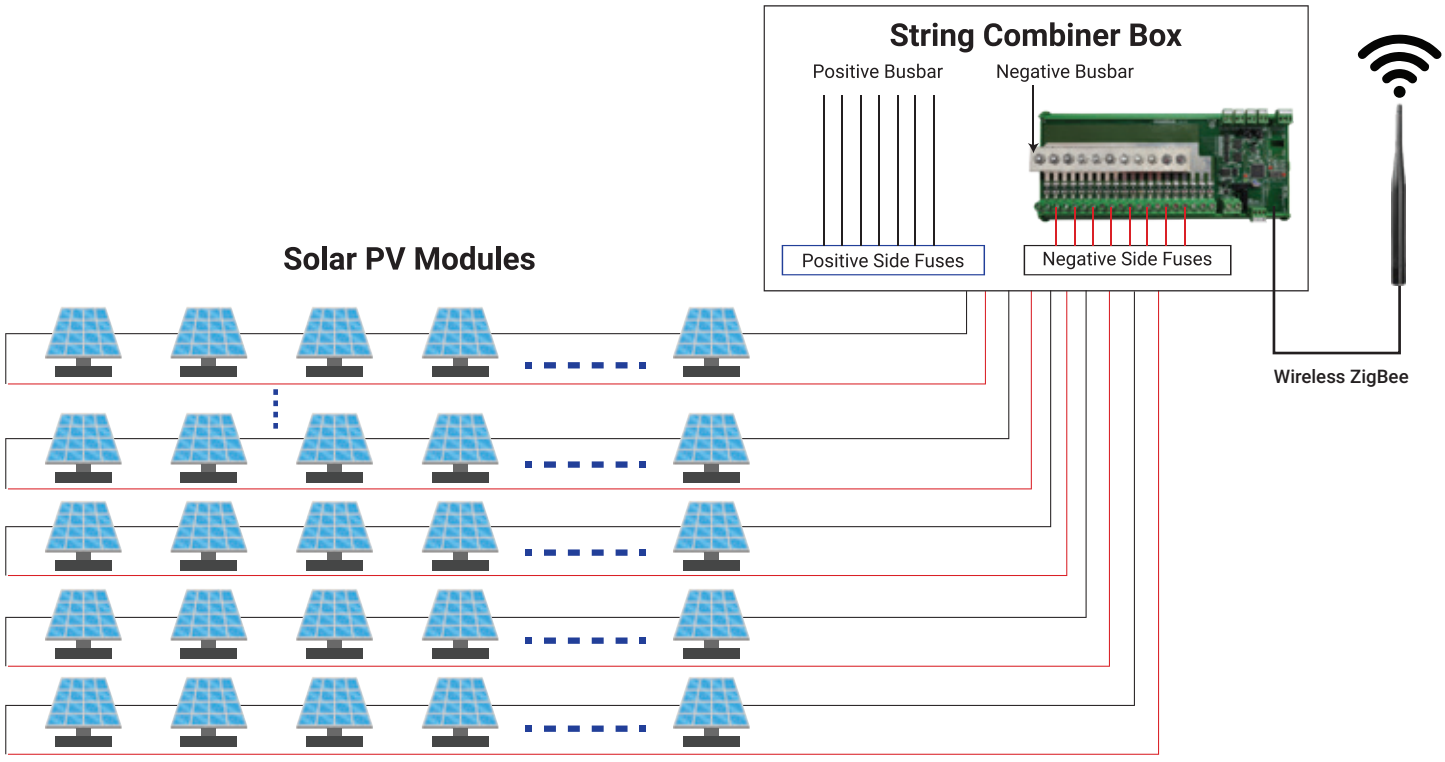
- 8/12/16/20 Channels String Inputs
- Built-in Shunt based DC Current Monitoring
- Measurement on the negative side string inputs
- Compatible with system voltage levels of up to 1500 VDC
- 02 RTD Sensor inputs for Temperature Monitoring
- 02 Digital inputs for DC disconnector and power SPD status
- -10°C to 70°C Operating temperature
- Input power supply: 18-36 VDC or 5 VDC
- 01 No. of RS-485 (2-wired) communication port
- On-board Wireless ZigBee communication module
- Modbus-RTU communication port
- Wireless ZigBee communication protocol
- Effortless communication with any SCADA system



SBM-S-1225 (Wireless)

SBM-S-1225 (Wired)

String Box Monitor - Connection/Configuration



Sonepar India Pvt. Ltd.

Gandhinagar
Address: B-30, G.I.D.C. Electronic Estate, Sector - 25, Gandhinagar - 382 016, Gujarat, India
E-mail: sales.masibus@soneparindia.com
Ph. No.: +91 9662042824

Goa
Address: C-6, Phase 1-A, Verna Industrial Estate, Verna, Salcette - 403722, Goa, India
E-mail: sales.masibus@soneparindia.com
Ph. No.: +91 9822135796

Pune
E-mail: sales.masibus@soneparindia.com
Ph. No.: +91 9689937234

Bengaluru
E-mail: sales.masibus@soneparindia.com
Ph. No.: +91 8732971943

Chennai
E-mail: sales.masibus@soneparindia.com
Ph. No.: +91 9725154195

Delhi
E-mail: sales.masibus@soneparindia.com
Ph. No.: +91 9909949742

Hyderabad
E-mail: sales.masibus@soneparindia.com
Ph. No.: +91 9909949062

Kolkata
E-mail: sales.masibus@soneparindia.com
Ph. No.: +91 9512003359

Mumbai
E-mail: sales.masibus@soneparindia.com
Ph. No.: +91 9689937234

Gurgaon
Address: Plot No. 229/239, Village - Kherki Daula, Sector 76, Gurugram, Haryana, 122004, India

Kolkata
Address: 503, Block 4B, Ecospace Business Park, Newtown, Rajarhat, Kolkata, West Bengal, 700160, India

Chennai
Address: Plot No. 1, Gokul Garden, Melnallathur, Thiruvallur, Chennai, Tamil Nadu, 602002, India

Aurangabad
Address: FP-42, Five Star Industrial Area, Shendra MIDC, Aurangabad, Maharashtra, 431201, India

Panchkula
Address: Plot No. 263, Industrial Area, Phase-II, Panchkula, Haryana, 134113, India

Bhubaneshwar
Address: Plot No. 443, 1st Floor, Saheed Nagar, Bhubaneshwar, Odisha, 751007, India

Website: www.soneparindia.com
Website: www.masibus.com
E-mail: sales.masibus@soneparindia.com

Masibus Automation & Instrumentation FZC

Sharjah
Address: A2-102, SAIF Zone, PO Box 120145 Sharjah, UAE

E-mail: sharjahall@masibus.com
Ph. No.: +971 65574650