



SIEMENS

tiastar™ Motor Control Center

## Expanding installation possibilities with additional network connectivity.

**Any Smart Motor Control Center can save installation time and simplify the connection to the controlling PLC, but Siemens has taken the Smart Motor Control Center to the next level.**

**Siemens tiastar Smart Motor Control Center delivers these additional features:**

- Superior network loss fault tolerance
- Decreased PLC programming required for motor control and fault conditions
- Reduced integration time and effort required during commissioning

Siemens tiastar Smart Motor Control Center is expanding the installation possibilities by introducing additional network connectivity for customers with a multi-supplier control environment.

**Answers for industry.**

## Siemens Smart Motor Control Center

Siemens is the only company that can provide you with a Smart Motor Control Center utilizing the unique features of the SIMOCODE Overload Controller containing these features:

- Motor control and fault protection programming is contained in the overload, not in the PLC. In addition, the overload is not powered from the network connection.

Loss of the network scanner, the PLC, or network power does not eliminate the operation of the motor or overload. This is true redundancy of control.

Placing the motor operation programming in the overload means eliminating engineering and programming time required for motor control and protection functions in the controlling PLC or DCS system.

- Additional digital I/O is available for local start/stop functions.

The local start/stop control does not have to go to the PLC for programming and evaluation. It may be wired directly to the overload in the motor control center bucket, and using the programmability of the overload, provide proper control of the motor in local mode.



This contributes to additional engineering, programming, and installation savings by removing wiring and programming to the controlling PLC and DCS.

- Available local control station.

The local control station reduces integration time even more by eliminating the need for installation and wiring of lights and pushbuttons.

## Siemens networking

Siemens is the only company that can provide you with two industry standard internal networks for control of the motor control center:



- AS-Interface (ASi)  
A two-wire, low-cost network with bit level information only. No analog information is provided to the master controller.

- Profibus  
A full-featured fieldbus allowing significant analog and digital data to be passed between members on this network. This is the fastest and most robust non-Ethernet based fieldbus on the market today.
- Flexible offering  
Based on the application, and customer requirements, the Smart Motor Control Center may also be wired internally either with ASi or Profibus or both.

The customer may choose to control the Smart Motor Control Center via a Siemens PLC or DCS system, or they may choose to install a Profibus network scanner in their desired network control PLC for maximum speed, power, and flexibility.

The Smart Motor Control Center may be supplied with a variety of gateways to allow the customer to control the motor control center from their native network.

## Multi-vendor control environment

Today's control environment can be difficult to maintain. There is constant pressure to replace obsolete technology and processes with new systems capable of higher levels of productivity and reduced maintenance time and effort.

In addition, over the operating life of many facilities, there have been previous upgrades that have not been from the same vendor, or even if from the same vendor, the underlying technology has been replaced and upgraded.

This creates a production environment that has multiple vendors with competing technologies and networking standards. These systems often have minimal or no integration, and integrating new or additional vendors into all of these networks has become increasingly difficult. This leads to many facilities becoming locked into a single supplier of their control components and technology regardless of the availability of newer, higher-level technical features.

Siemens recognizes this difficult integration environment, and understands that customers need simple integration solutions for upgrading existing industrial facilities.

## Siemens gateway offering

Siemens is confident of the power and flexibility of our system that utilizes the open Profibus network. We believe that once you try our system out, you will be confident, too.

However, Profibus networking may not be an option in many existing facilities today, so Siemens is offering a way to connect the Siemens Smart Motor Control Center Profibus network to the fieldbus that is already installed in your facility.

Siemens is now capable of supplying a tiastar Smart Motor Control Center containing a gateway that allows connectivity between Siemens feature rich Profibus network technology and other vendors' competing fieldbus technology.

The Siemens tiastar Smart Motor Control Center is supplied with either feature rich Profibus networking or simple ASi networking. The network installed in the motor control center is pre-terminated, pre-tested, and allows fast connection and commissioning with Siemens PLCs.

Customers can specify one of four custom network interface gateways. The current networks that have qualified gateway solutions are:

- DeviceNet™
- Ethernet/IP™
- Modbus RTU (RS232 Serial)
- Modbus TCP

This gateway is then installed in a twelve inch bucket in the motor control center, and pre-configured for the motor control center it is installed with.

This allows the customer to make a single network drop (connection) on their existing network to the motor control center. An motor control center order that is beyond 24 networked nodes, may require more than one gateway, and therefore require additional nodes on the customer network.

A Siemens supplied gateway between one of the four defined networks and the Smart Motor Control Center Profibus network backbone will consist of the following equipment:

- A twelve inch removable bucket
- A gateway pre-configured for the Profibus networking installed in the Smart Motor Control Center

Customers will be supplied with a document containing the network map of the input and output addressing of all of the devices to their native network.

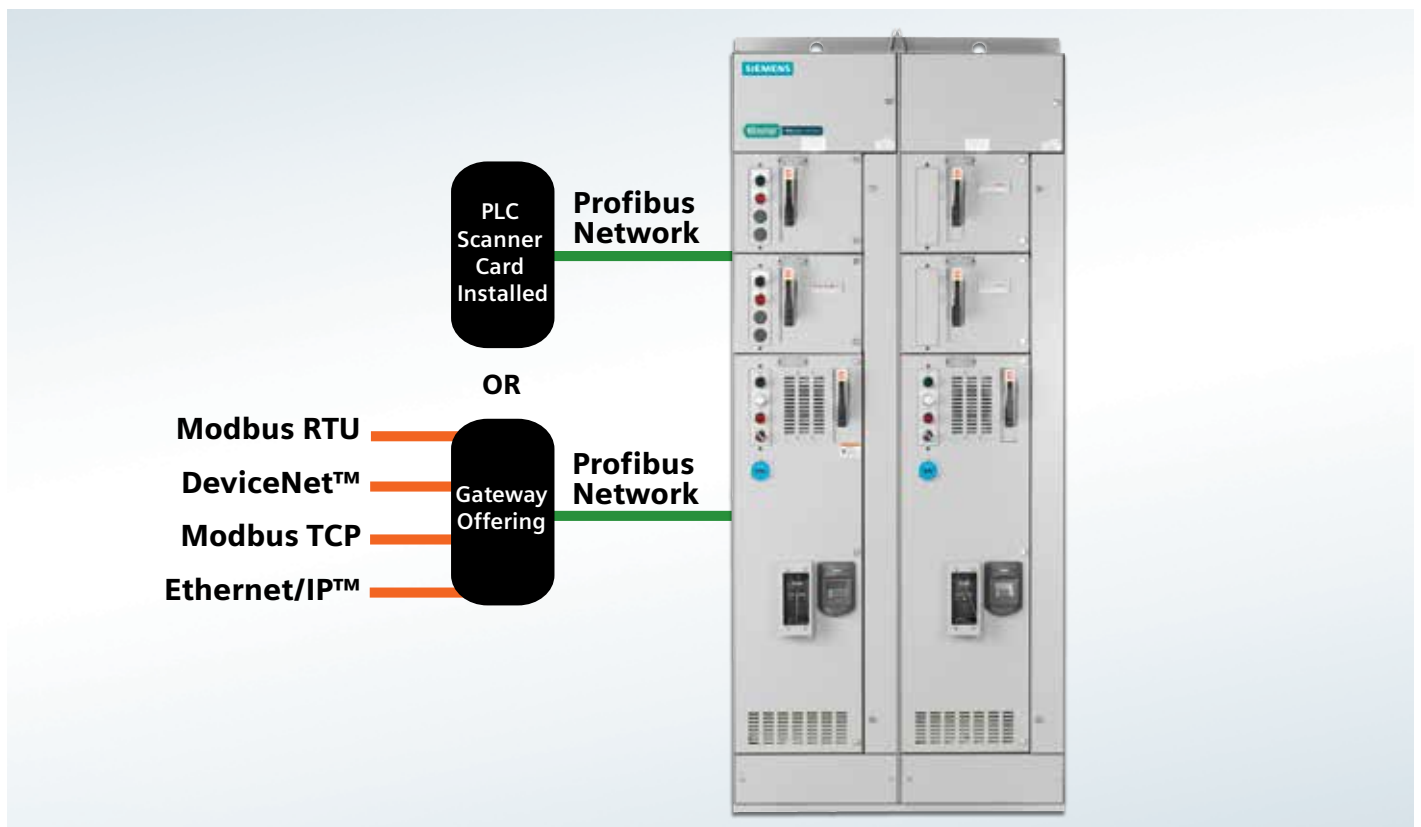
In addition, a manual with configuration instructions for all of the gateways available for order will be included, allowing the customer to re-configure the supplied gateway as required by the application.

### Additional ways to Integrate Profibus

Siemens has tested multiple Profibus scanner cards from various manufacturers to insure that they properly control and integrate with a Siemens tiastar Motor Control Center.

List of suppliers that provide Profibus network scanners:

Controlling PLC	
Manufacturer	Part number
<b>Rockwell Automation ControlLogix PLC</b>	
<b>ProSoft Technology, Inc.</b> 1675 Chester Avenue Fourth Floor Bakersfield, CA 93301 Tel: +1 661-716-5100 Fax: +1 661-716-5101	MVI56-PDPMV1
<b>Daniel Woodhead Company</b> 3411 Woodhead Drive Northbrook, IL 60062 Tel: +1 800-225-7724 Fax: +1 800-544-3211	SST-PFB-CLX-RLL
<b>Rockwell Automation CompactLogix PLC</b>	
<b>Hilscher North America, Inc.</b> Suite 100 2443 Warrenville Road Lisle, IL 60532 Tel: +1 630-505-5301 Fax: +1 630-505-7532	RIF 1769-DPM
<b>Schneider Electric Modicon Quantum PLC</b>	
<b>ProSoft Technology, Inc.</b> 1675 Chester Avenue Fourth Floor Bakersfield, CA 93301 Tel: +1 661-716-5100 Fax: +1 661-716-5101	PTQ-PDPMV1





## Which integration solution?

These choices may lead to confusion about which solution is best for your particular application. Siemens has application engineers located at the factory to help you decide what the best solution is for you.

The key issue is whether you need access to acyclic data from the slave device on the network. To help with the decision of whether acyclic data is needed, we offer a series of questions to ask:

- Q1.** Do you require more than four words of data from the SIMOCODE? Examples might include more than three phases of current information plus the average current, or more than three phases of voltage plus the frequency.
- Q2.** Do you require read-write access to configuration and setup parameters for any installed variable frequency drives?
- Q3.** Do you require more than command and status bits for any installed softstart? Examples might include trip or warning events, or additional diagnostic information.

This table provides a quick overview of possible technical solutions for connecting to the Siemens Smart Motor Control Center.

Profibus Scanner	Siemens Gateway
Answered "YES" to any of the questions Q1– Q3  (this option requires acyclic data)	Answered "NO" to all of the questions Q1 – Q3  (this option does not require acyclic data)
Up to 126 connected devices on a single network	Up to 24 devices on a single gateway.
Customer wires tiastar motor control center network from motor control center to control panel	Customer wires existing network to tiastar motor control center
Customer configures Profibus scanner	Customer configures existing network scanner to include gateway

### Ordering a Siemens Smart Motor Control Center

Please contact your local Siemens Sales Office for a quote on a Siemens tiastar Smart Motor Control Center.

Application engineers at the Siemens motor control center factory in West Chicago, IL, are available for consultation on special quotes and custom application requirements.

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