01 / Identity and installation scope

SCHNEIDER ELECTRIC

BMEP582040H

Processor Module

Product and host

Schneider Electric BMEP582040H is a hardened Modicon M580 standalone processor for local I/O, Ethernet remote I/O and distributed-device control.

Local modules
Up to four backplanes

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BMEP582040H
Control application and scanning

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Ethernet equipment
RIO drops and DIO devices

Applicability

BMEP582040H is the hardened standalone controller. Capacity values are system maxima and depend on I/O density, backplane slots and network configuration; they are not onboard I/O counts.

Planning basis

This Apter Power guide supports identification and engineering planning. Qualified personnel must apply the complete manufacturer and machine-builder procedures for the actual installation.

02 / Configuration and interface readiness

Item	Planning limit
Maximum discrete I/O	2048 system channels
Maximum analog I/O	512 system channels
Maximum expert I/O	72 system channels
Maximum local backplanes	4, main plus extensions
Maximum RIO drops	8; up to 2 backplanes per drop
Distributed-device allocation	64 connections; 3 reserved for local slaves
Distributed scanning capacity	61 connections after local-slave reservation
Ethernet communication modules	2, excluding the controller

Allocation boundary

The embedded scanner supports both Ethernet remote I/O and distributed equipment. Up to eight RIO drops are supported, with a maximum of two backplanes per drop. The distributed-device allocation is 64 connections, of which three are reserved for local slaves, leaving 61 for scanning distributed equipment. The controller supports two Ethernet communication modules in addition to its embedded interfaces; the adapter and network architecture must match the configured remote system.

Achievable capacity

Module density, power budget and available slots can reduce the number of channels actually fitted. Treat the listed capacities as system maxima.

03 / Installation and connection decisions

Remote-drop architecture

Use the compatible adapter and supported main-ring arrangement for each RIO drop. Do not exceed eight drops or two backplanes per drop for this controller.

Service-port topology

The service port does not support RSTP, VLANs or QoS tagging. An inappropriate connection to the device network can create a logical loop and disrupt communications.

Cabling and grounding

Use suitable industrial shielded Ethernet cable and maintain the required equipotential grounding. Limit each copper Ethernet segment to 100 m and use the specified conversion equipment for longer optical links.

Interface context

Three front-panel RJ45 ports provide one service connection and two device-network connections. The Ethernet links support 10/100 Mbps autonegotiation; industrial shielded copper segments are limited to 100 m. The service port can support monitoring or port mirroring but does not support RSTP, so it must not be used as an unrestricted substitute for a ring port. A high-speed USB 2.0 mini-B interface supports a programming PC or HMI, with the M580 driver installed before connecting a PC.

Record
Identity and configuration

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Work
Approved isolation and procedure

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Check
Connections and retained settings

04 / Commissioning and functional acceptance

Review	Expected engineering evidence
Local machine and process I/O	Coordinate discrete, analog and expert modules across up to four local backplanes. Validate the complete module allocation against the controller capacity and available rack slots.
Ethernet remote I/O	Manage up to eight RIO drops with compatible X80 adapters. Each drop can contain a main and extended backplane; configure its channels and network topology as part of the complete system.
Distributed Ethernet equipment	Use the embedded DIO scanner for compatible distributed equipment. The 64-connection allocation includes three local-slave reservations, leaving 61 scanning connections.
Engineering and diagnostics	Use the service port for approved monitoring or port mirroring and the mini-B USB interface for supported engineering connections. Keep service access separate from the RSTP ring topology.

How do STOP and RUN differ on BMEP582040H?

In STOP, a valid application is present but is not executing, and configured STOP-state behavior applies. In RUN, the controller executes the application. Verify the configured output behavior and machine conditions before transitioning to RUN.

Release boundary

Preserve the project, firmware compatibility and configured I/O behavior before replacement. Install the USB driver before a PC connection and validate controller state, network operation and controlled I/O response before release.

05 / Technical handover and support

Retained information

Keep the complete BMEP582040H marking, host identity, connection photographs, configuration backup and controlled-test results in the service record.

Support planning

Confirm present support and replacement guidance with Schneider Electric for the complete installed identity. Apter Power availability and dispatch are separate quotation matters.

Reference basis

Schneider Electric Modicon M580 Hardware User Guide, EIO0000001578.19, 07/2026.

Apter Power technical summary; not a manufacturer-issued manual. Apply the original instructions for the actual installation.

Related industrial automation products

Navigation only; no substitution or compatibility claim.

Schneider Electric LXM15MD28N4

Schneider Electric 170ADI35000

Schneider Electric ATV71HD75N4

Discuss your installed configuration

Send the full unit marking and connection details.

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