



Rack-Based Protection & Monitoring System

PMS-300 PLUS

The PMS-300P is a 19" rack-based system (3U or 6U) for centralized machine condition monitoring and protection, offering advanced signal processing, configurable alarms, and real-time diagnostics.

KEY FEATURES

- Versatile customization with interchangeable cards
- Up to 64 dynamic channels (6U version)
- Integrated backplane for power, signals and communication
- Advanced alarm and protection functions
- Modbus RTU, Modbus TCP, Profibus DP and OPC UA support
- Seamless CMS-500P integration via Ethernet (TCP/IP)
- Optional redundancy (6U) and local display



MONITORING SOLUTIONS



Endwinding



Air gap



Magnetic flux



Roller bearing



Axial thrust position



Shaft & bearing vibration



Rotor poles temperature



Runner clearance



DESCRIPTION

The PMS-300P Protection & Monitoring System is a modular 19" rack-based solution for safeguarding and monitoring rotating machinery. In its 3U version, it needs just one slot for the reference card (PMS-341P), leaving 8 slots for dynamic channel processing cards (PMS-314P) and Process Parameters, alarm logic cards (PMS-330P). For greater capacity or redundancy, a 6U version is available. Front-facing BNC terminals enable external dynamic input analysis.

The phase reference card (PMS-341P) manages vital information shared among rack cards, including Phase Reference signals (2x), Digital Inputs, and fieldbus communication. Each dynamic channel, supported by PMS-314P, offers both analog (4..20mA) and digital outputs (alarm, danger, sensor ok, system ok) based on calculated parameters and alarms. The versatile PMS-330P enables alarm logic integration and operating parameters collection through analog inputs or Modbus RTU interface.

PMS-300P RACK-BASED MONITORING SYSTEM

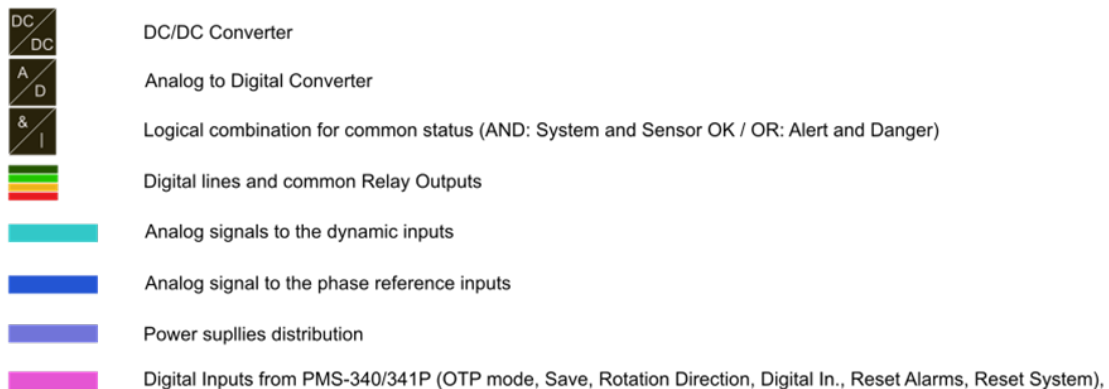
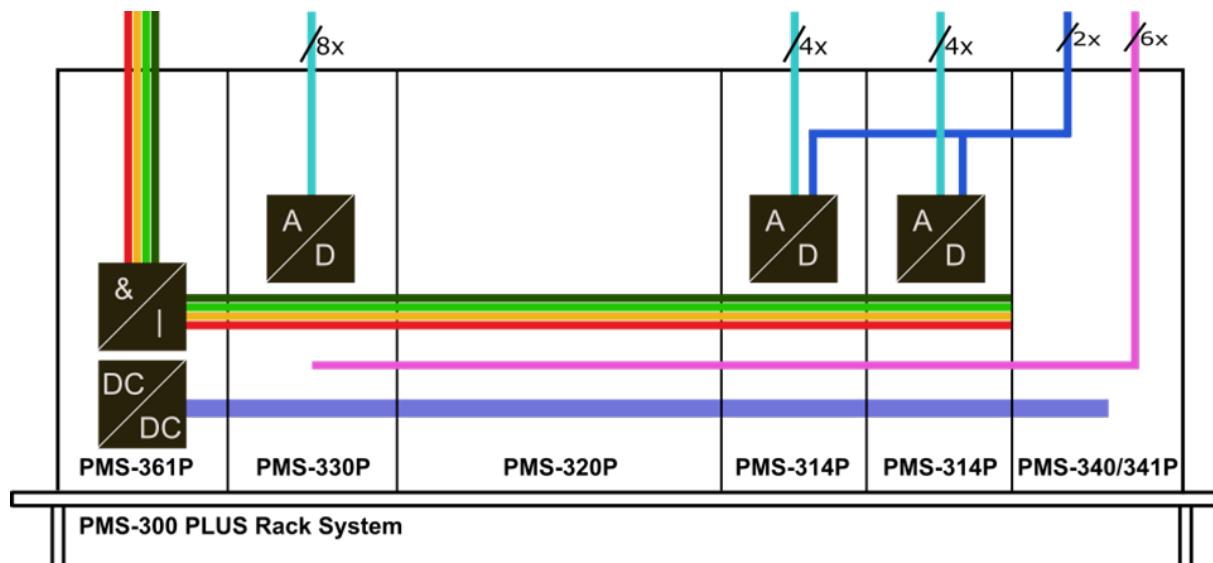
The PMS-300P rack-based system represents the third generation of acquisition systems by MC-monitoring SA. Rack-based solutions are the most common choice when a centralized monitoring system is required with a large number of measurement points. The PMS-300P is the ideal solution for monitoring and protecting large turbines, generators, or a multitude of smaller machinery, such as motors and fans.

The PMS-300P offers excellent channel density, providing up to 32 measurement channels (with up to 8x PMS-314P cards) in a 3U rack format and 64 channels (with up to 16x PMS-314P cards) in a 6U rack format. Additionally, each PMS-300P rack-based system includes one power supply card (PMS-361P). An interface card (PMS-341P), managing phase reference, digital inputs, and fieldbus communication, is mandatory for system operation.

Each PMS-314P and PMS-330P card can be independently programmed to offer continuous monitoring, protection, and communication with MCm software for a wide range of measurement parameters, including vibration, position, air gap, temperature, and speed, among others.

PMS-300P BACKPLANE BUS INTERCONNECTION

The integrated backplane of the PMS-300P Rack System provides electrical interconnections between the installed cards, including Power Supplies, Digital Inputs, Phase Reference signals, and Digital BUS for card status.

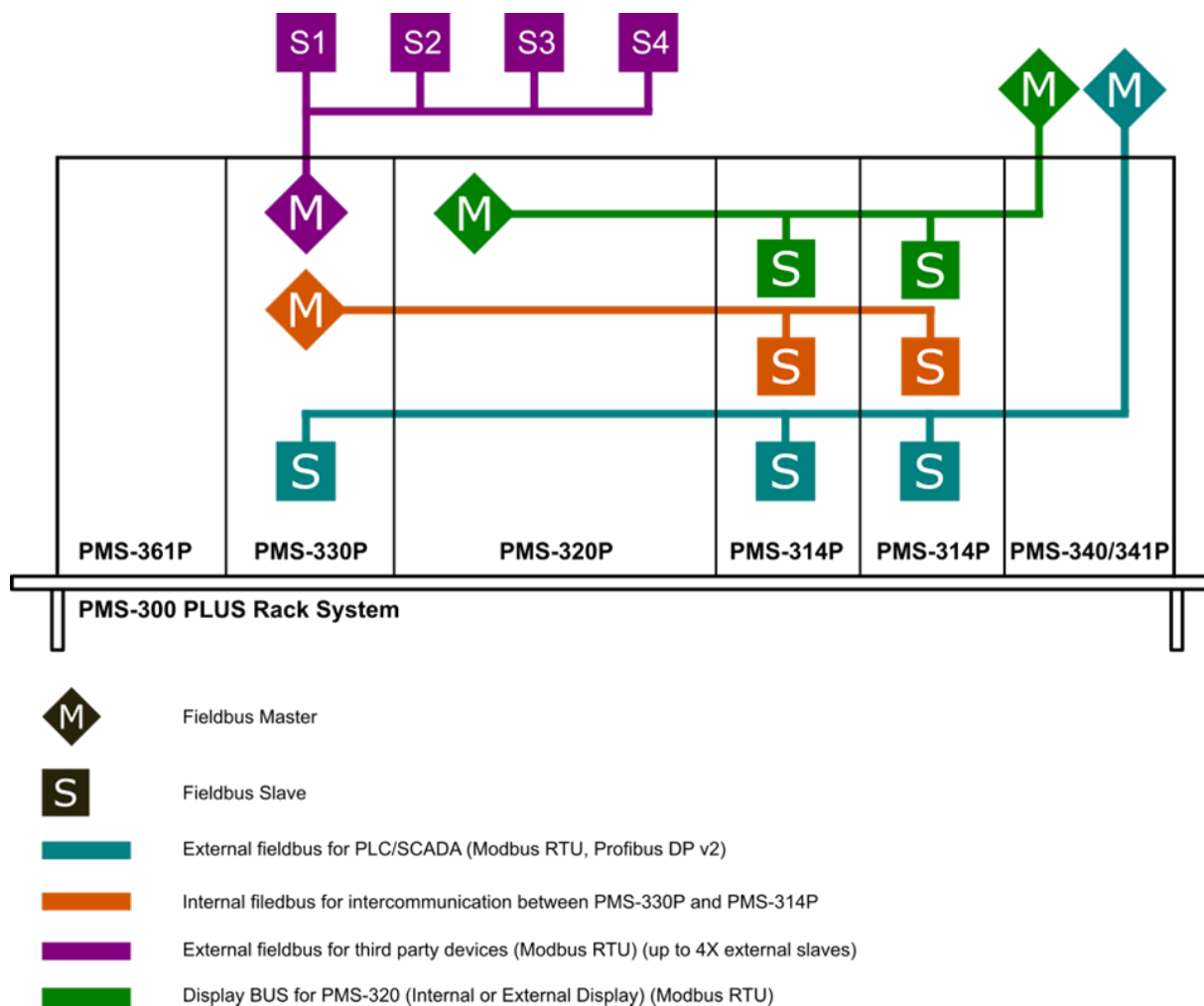


RACK ALARM AND STATUS

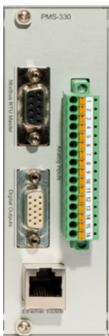
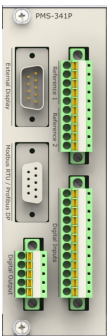
The PMS-361P provides 6x Relay Outputs for the common rack statuses, including System OK status (logical AND between the installed cards), Sensors OK status (logical AND between the installed cards), Alert status (logical OR between the installed cards), and Danger status (logical OR between the installed cards). Furthermore, two power supply check relays are available to indicate the status of both internal and external power supplies.

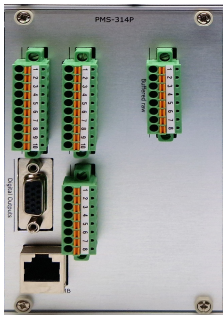
PMS-300P BACKPLANE FIELDBUS INTERCONNECTION

The PMS-300P backplane integrates three distinct physical fieldbuses used for card interoperability, external fieldbus master connectivity, and communication with the PMS-320P local display. Additionally, if a PMS-330P card is installed, an additional fieldbus interface becomes available for communication with third-party devices.

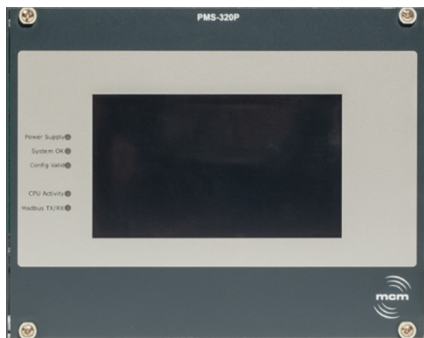


AVAILABLE CARDS

PMS-361P	PMS-330P	PMS-314P	PMS-341P
Power Supply & Relay Card	Process Monitoring & Relay Controller	4x Channel Process Monitoring Card	Phase Reference & Digital I/O Card
Front View			
			
Back view without buffered raw outputs (single slot)			
			
Product Numbers (P/N)			
20.361.400	20.330.4xx	20.314.40x	20.341.4x0
Datasheet Information			
<i>Included in this datasheet</i>	PMS-330P Datasheet	PMS-314P Datasheet	PMS-341P Datasheet

PMS-314P	PMS-341P
Back view with raw outputs (dual slots)	
	coming soon
Product Numbers (P/N)	
20.314.41x	20.341.411
Datasheet Information	
PMS-314P Datasheet	

Note: When buffered outputs are ordered, each PMS-314P or PMS-341P uses two slots, which reduces the maximum number of cards per 3U rack to **1× PMS-341P + 3× PMS-314P**.

PMS-320P – Local Display
Front View

Product Numbers (P/N)
20.321.400 or 20.321.401 (mounted on 3U 19" plate for cabinet)
Datasheet Information
PMS-320P Datasheet

GLOBAL SPECIFICATION

GENERAL

Housing	Anodized aluminium 19 inches frame with top and bottom perforated metal sheets allowing natural convection
Color	Aluminium and RAL7016 front panel
Power Supply	PMS-361P rack power supply is used to provide stabilized +24VDC to all installed cards
Backplane	Proprietary bus and signal exchange through backplane

FRONT RACK SLOTS

Number of slots	10x (20x) slots — 8x (16x) slots available for user
Accessibility	Front of the rack
Slot 0	Reserved for PMS-341P (required)
3U: Slot 1 to Slot 8 6U: Slot 1 to Slot 16	Available for PMS-314P, PMS-312P or PMS-330P
Slot 8	Should be used for PMS-330P (if used)
Slot 9	Reserved for PMS-361P Power Supply (required)

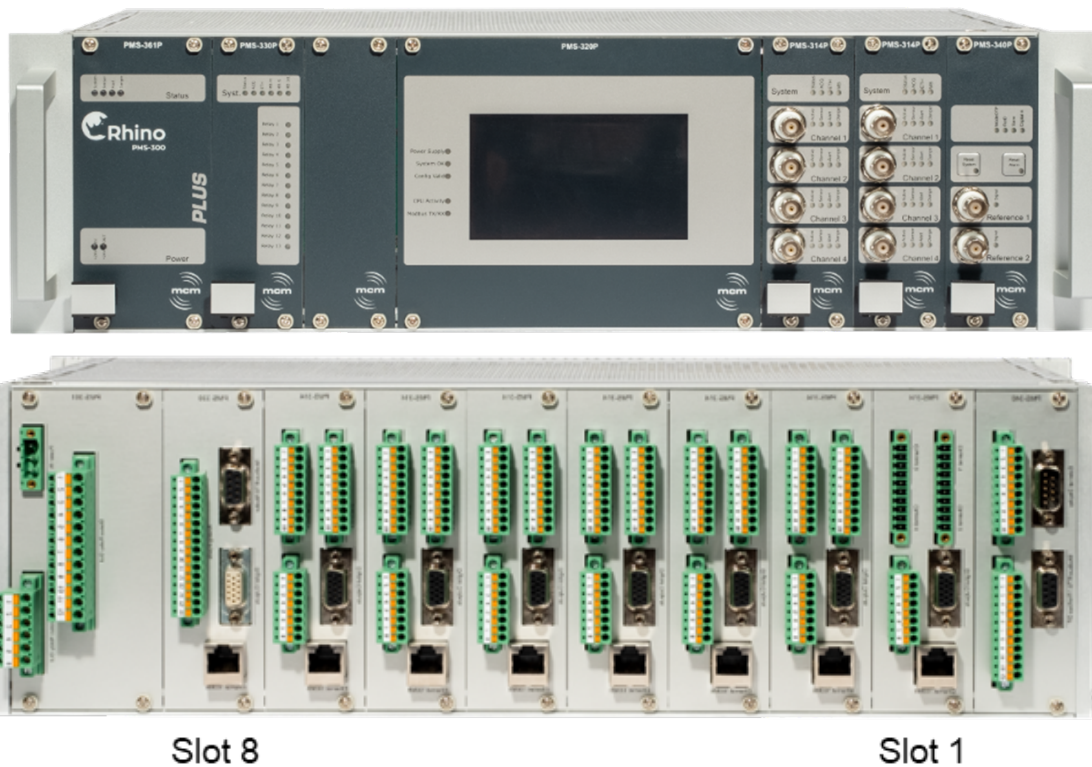
REAR RACK SLOTS

Number of slots	10x (20x) slots — 8x (16x) slots available for user
Accessibility	Rear of the rack
Slot 0	Reserved for backplane connector of PMS-341P (required)
3U: Slot 1 to Slot 8 6U: Slot 1 to Slot 16	Available for backplane connector of PMS-314P or PMS-330P
Slot 9	Reserved for backplane connector of PMS-361P Power Supply (required)

Note:

1. Input and output backplane connectors are associated with the cards of the front slot and are mounted accordingly during the manufacturing process. For any change of the rack topology, please contact MC-monitoring SA.
2. For safety reasons, each unused slot should be covered by a blank aluminium panel.

- Each card installed in a slot receives an electronic hardware ID automatically, corresponding to the slot number: **1 to 8 for 3U** and **1 to 16 for 6U rack-based systems**.



POWER SUPPLY

Card	PMS-361P
Input Voltage	18 to 36V _{DC}
Power	150W
Max input current	8.3A @ 18V _{DC} , 6.3A @ 24V _{DC} , 4.2A @ 36V _{DC}
Redundancy	Only available in 6U rack version

RELAYS

Card	PMS-361P
Number	6 × (2 × Power Supplies, Sensor OK, System OK, Danger, Alert)
Switching characteristic	Max. 36V _{AC/DC} , 5A

DIGITAL INPUTS

Card	PMS-341P
Logical Level	+24V logic level (<3V: Low level, >12V: High level)
Isolated	No
Digital Input Names	
• RST AL	A high level resets the latched alarms
• OTP	A high level switches the alarm level from OTP 0 to OTP 1
• ROT D	A high level means clockwise direction
• SAVE	A high level saves a dataset of raw signal
• SPARE	Use for OTP mode combination
• Reset System	A high level restarts the PMS-314P card

SERIAL FIELDBUS INTERFACES

Card	PMS-341P
Fieldbus - RS485	Profibus DP v2 / Modbus RTU Slave (configurable: 19200 to 115200) Common interface for all PMS-314P on PMS-341P card

PHASE REFERENCE INPUTS

Card	PMS-341P
Fieldbus - RS485	Profibus DP v2 / Modbus RTU Slave (configurable: 19200 to 115200) Common interface for all PMS-314P on PMS-341P card

LED INDICATOR

System OK (1×)	Indicates the Status of the rack (logical AND)
Sensor OK (1×)	Indicates the Status of all the connected sensors (logical AND)
Alert (1×)	Indicates Alert status of the rack (logical OR)
Danger (1×)	Indicates Danger status of the rack (logical OR)
+24V IN	Indicates the availability of external Power Supply
+24V OUT	Indicates the availability of internal Power Supply

TEMPERATURE RANGE

Temperature range	
• Operation	0°C to +55°C
• Storage	–20°C to +75°C
• Humidity	Up to 90% (non-condensing)
Protection rating (IEC 60529)	IP30
Environmental restrictions	Limited to indoor use only

APPROVALS

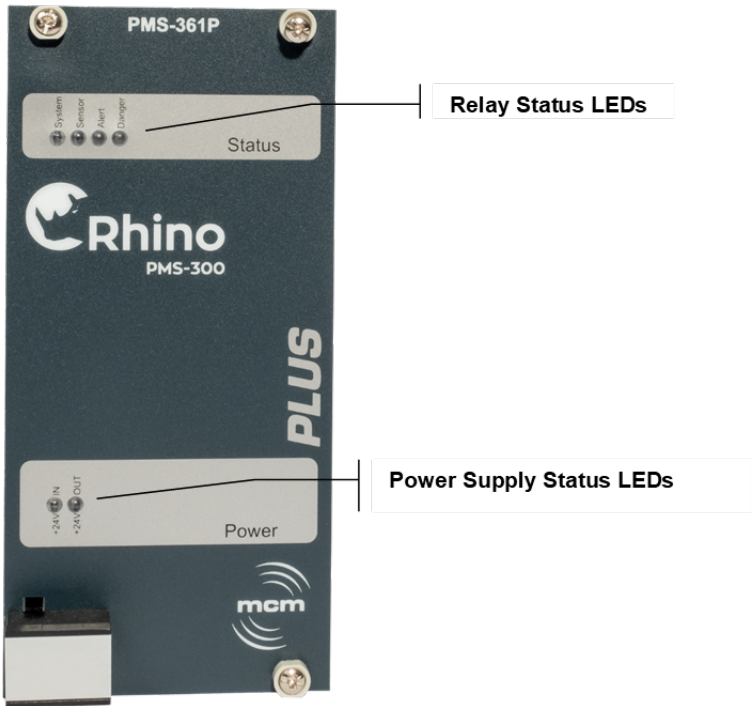
Conformity	European Union (EU) declaration of conformity (CE marking) United Kingdom (UK) declaration of conformity (UKCA marking)
EMC	EN 61326-1
Electrical Safety	EN 61010-1 ¹
Environment management	RoHS compliant (2011/65/EU)
Environmental testing	
• Dry heat testing	IEC-60068-2-2
• Damp heat steady state	IEC-60068-2-78
• Environment pollution	Degree 2, according to IEC 61010-1

PHYSICAL CHARACTERISTICS

Mounting	19" rack 3U or 6U
Size	3U: Approx. h: 133 mm, L: 483 mm, l: 302 mm 6U: Approx. h: 265 mm, L: 483 mm, l: 302 mm
Weight	4.1 kg (with PMS-361P, PMS-341P and 1× PMS-314P)

¹Depending on the configuration of the rack PMS-300 PLUS

PINOUT DESCRIPTION (PMS-361P)



INDICATORS

Relay Status LEDs

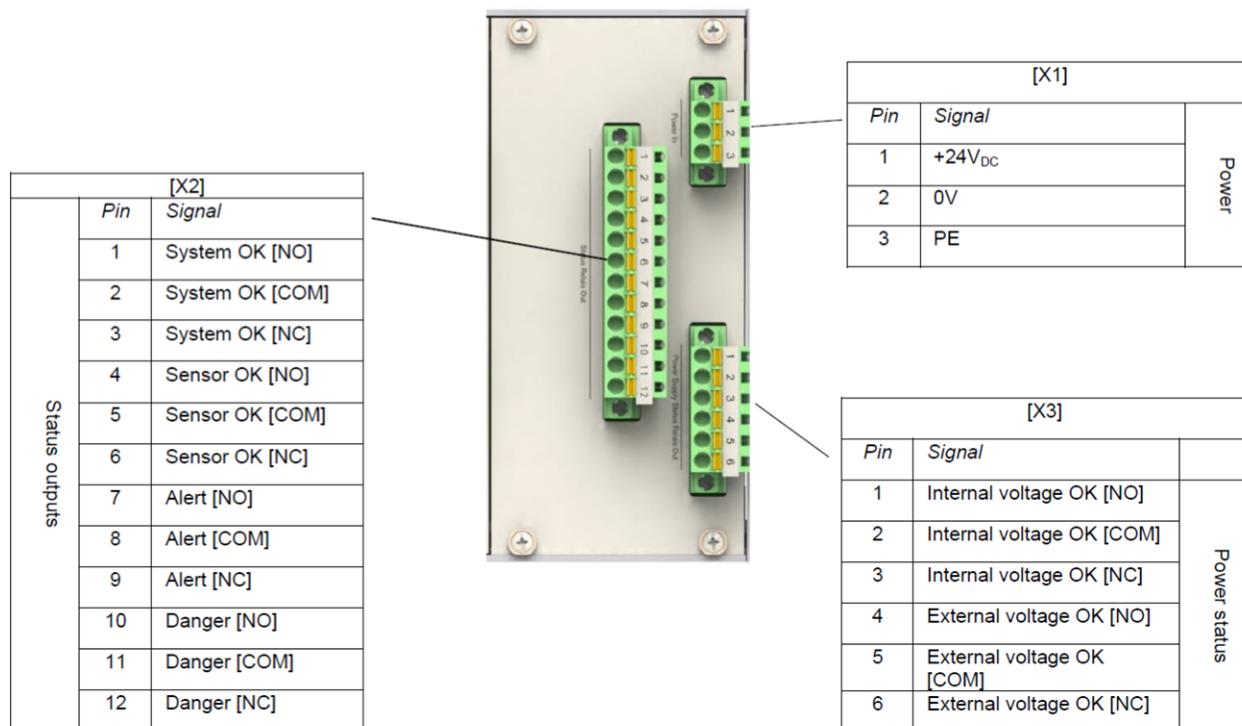
Indicates if the corresponding common relays of the rack are energized or not

- OFF:** Not Energized
- SOLID GREEN:** Energized (System OK or Sensor OK)
- SOLID YELLOW:** Energized (Alert)
- SOLID RED:** Energized (Danger)

Power Supply Status LEDs

Indicates if the power supply relays of the rack are energized or not

- OFF:** Not Energized
- SOLID GREEN:** Energized (+24V IN OK and +24V OUT OK)



CONNECTORS

X1

- X1.1 to X1.3

3-pin terminal strip header; push-in spring connection; clamping range 0.34 mm² to 2.5 mm²

External Power Supply for PMS-361P

X2

- X2.1 to X2.12

12-pin terminal strip header; push-in spring connection; clamping range 0.34 mm² to 2.5 mm²

Common rack status relay outputs:

NC: Normally Close (when not energized)

NO: Normally Open (when not energized)

COM: Common

X3

- X3.1 to X3.6

6-pin terminal strip header; push-in spring connection; clamping range 0.34 mm² to 2.5 mm²

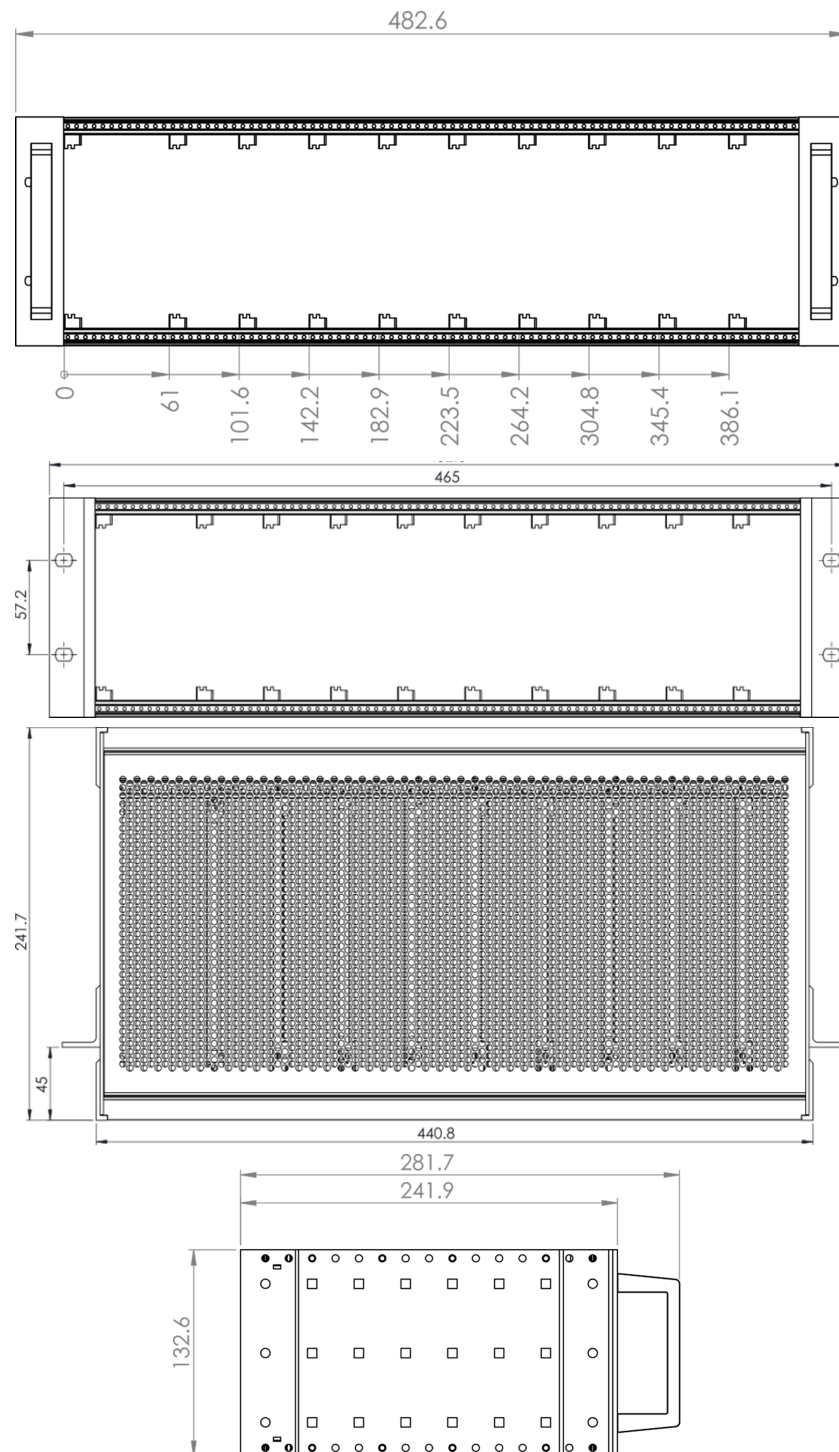
Power Supply status relay outputs:

NC: Normally Close (when not energized)

NO: Normally Open (when not energized)

COM: Common

MECHANICAL DRAWING 3U



ORDERING INFORMATION

Part type	Ordering code	Description
PMS-300P 3U	20.300.401	19" modular rack-based Protection & Monitoring System (3U) Compatible with CMS-500P Including: 1x PMS-361 PLUS: 24V Power supply with 4x Relay and digital inputs PMx-300P Manager
PMS-300P 6U redundancy	20.300.403	19" modular rack-based Protection & Monitoring System (6U) Compatible with CMS-500P Including: 2x PMS-361 PLUS: 24V Power supply with 4x Relay and digital inputs PMx-300P Manager

Notes:

1. If more than 10× PMS-314P or PMS-330P are present in the PMS-300P rack system, the dual power supply is mandatory. P/N 20.300.403.
2. Total power consumption depends on the sensors and conditioners powered by the PMS-300P rack system. If the total power exceeds 150 W, the dual power supply is mandatory. P/N 20.300.403.

RELATED PRODUCTS

Part type	Ordering code	Description
PMS-361P	20.361.400	Power Supply and Relay Card
PMS-341P	20.341.400	Dual Channel Phase reference Card Digital I/O, Ph. reference and Communication
PMS-341P BPRAW	20.341.410	Dual Channel Phase reference Card Digital I/O, Ph. reference and Communication With backside raw outputs
PMS-314P	20.314.401	4x Channel Process Monitoring Card Modbus RTU, Modbus TCP/IP
PMS-314P BPRAW	20.314.411	4x Channel Process Monitoring Card Modbus RTU, Modbus TCP/IP With backside raw outputs
PMS-314P Profibus DP	20.314.402	4x Channel Process Monitoring Card Modbus TCP/IP & Profibus DP
PMS-314P Profibus DP BPRAW	20.314.412	4x Channel Process Monitoring Card Modbus TCP/IP & Profibus DP With backside raw outputs
PMS-320P	20.321.400	Display Module interface 4.3"
PMS-320P mounted on 3U plate for cabinet	20.321.401	Display Module interface 4.3"
PMS-330P	20.330.401	Process Monitoring & Relay Controller Standard Modbus RTU
PMS-330P Profibus DP	20.330.402	Process Monitoring & Relay Controller Standard Modbus RTU & Profibus DP

PMS-314P LICENSE OPTIONS

Part type	Ordering code	Description
OPC UA server	Var. OPCUA or 22.300.010	Enable OPC UA server for characteristics values and status
OPC UA server Advanced	Var. OPCUA-ADV or 22.300.011	Enable OPC UA server with characteristics values, status and RAW data



All information provided in this document, including specifications, descriptions, recommendations, drawings, and other statements, is believed to be accurate and reliable at the time of publication. However, MC-monitoring SA makes no warranties, express or implied, regarding the completeness, accuracy, or fitness of the information for any particular purpose. MC-monitoring SA reserves the right to modify specifications, design, features, or discontinue products without prior notice. MC-monitoring SA disclaims any liability for direct, indirect, consequential, or incidental damages arising from the use of this document or products described herein. All trademarks and brand names are property of their respective owners. © 2026 MC-monitoring SA. All rights reserved.

Quality certification



Local representative

MC-monitoring SA
Route André Piller 19
CH-1762 Givisiez
+41 58 411 54 00
info@mc-monitoring.com
sales@mc-monitoring.com
www.mc-monitoring.com