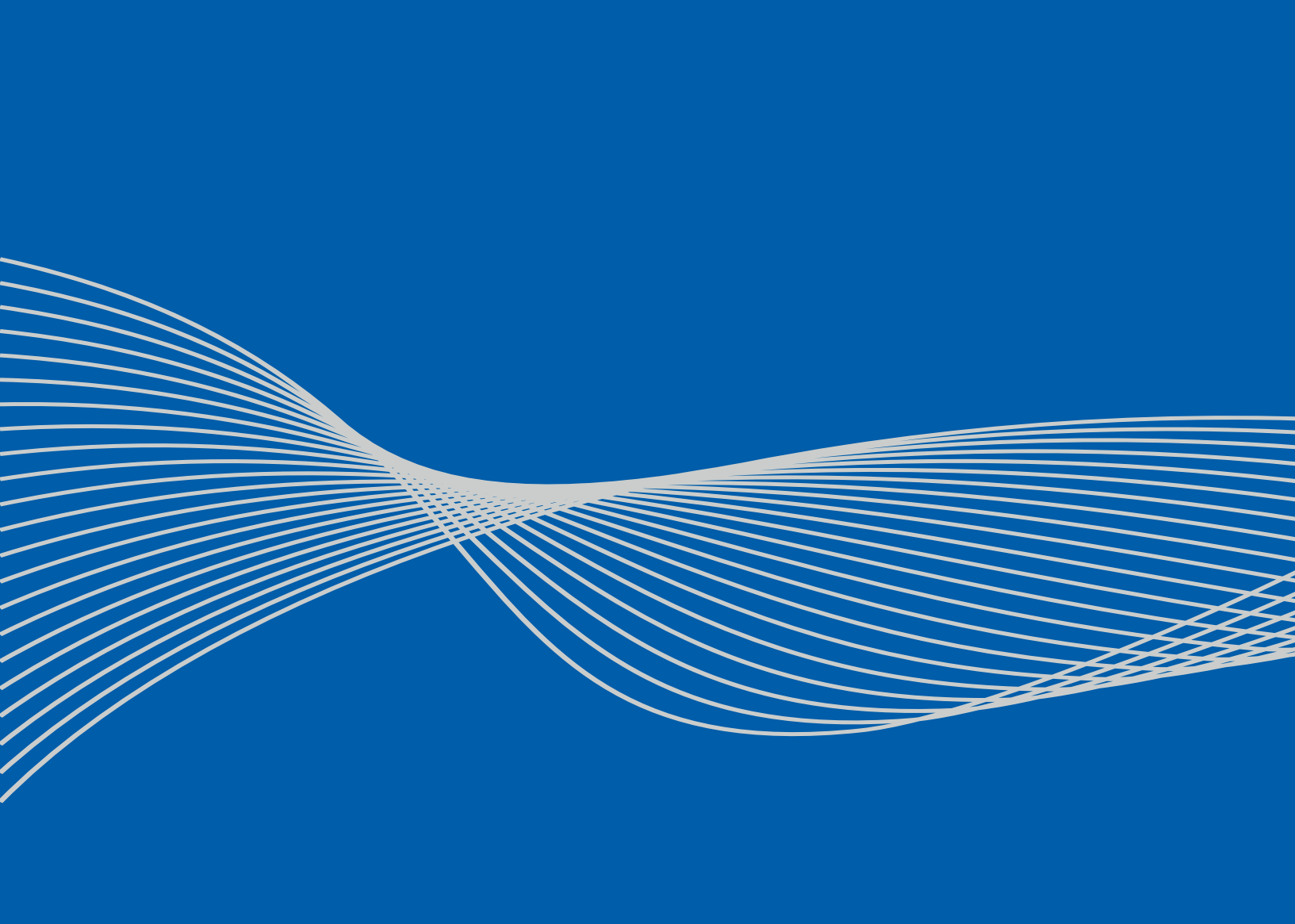
72X-0110-01 Revision A
Versions: PD-Guard

QUICK GUIDE

dobliePRIME PD-Guard™

Partial Discharge Monitor

DOBLE ENGINEERING COMPANY



PD-Guard™

product outline:

The doblePRIME PD-Guard™ continuously monitors partial discharge (PD) in equipment such as transformers, rotating machines, cables and switchgear.

The doblePRIME PD-Guard provides local alarms and will communicate data and notifications across standard interface channels and through to networked supervisory systems. It analyzes RF emissions in the HF, VHF and lower UHF ranges.

Install the doblePRIME PD-Guard on critical assets and configure using a computer, tablet or web-enabled device to monitor PD activity.

Designed to fit your monitoring program, the doblePRIME PD-Guard can operate as a standalone partial discharge monitor or as part of a doblePRIME™ Condition Monitoring Platform.

- Monitor partial discharge and configure monitor via computer, tablet or web-enabled device
- Works with a variety of sensors including antenna for airborne PD, CTs for individual or bundled conductors, UHF drain valve probes for in-tank applications and bushing tap connectors
- Built-in Expert System learns PD behavior and indicates changes in frequency and/or severity of measured PD levels
- Alarm relays for external notification
- Broadband RF signal detection including peak, average and quasi-peak

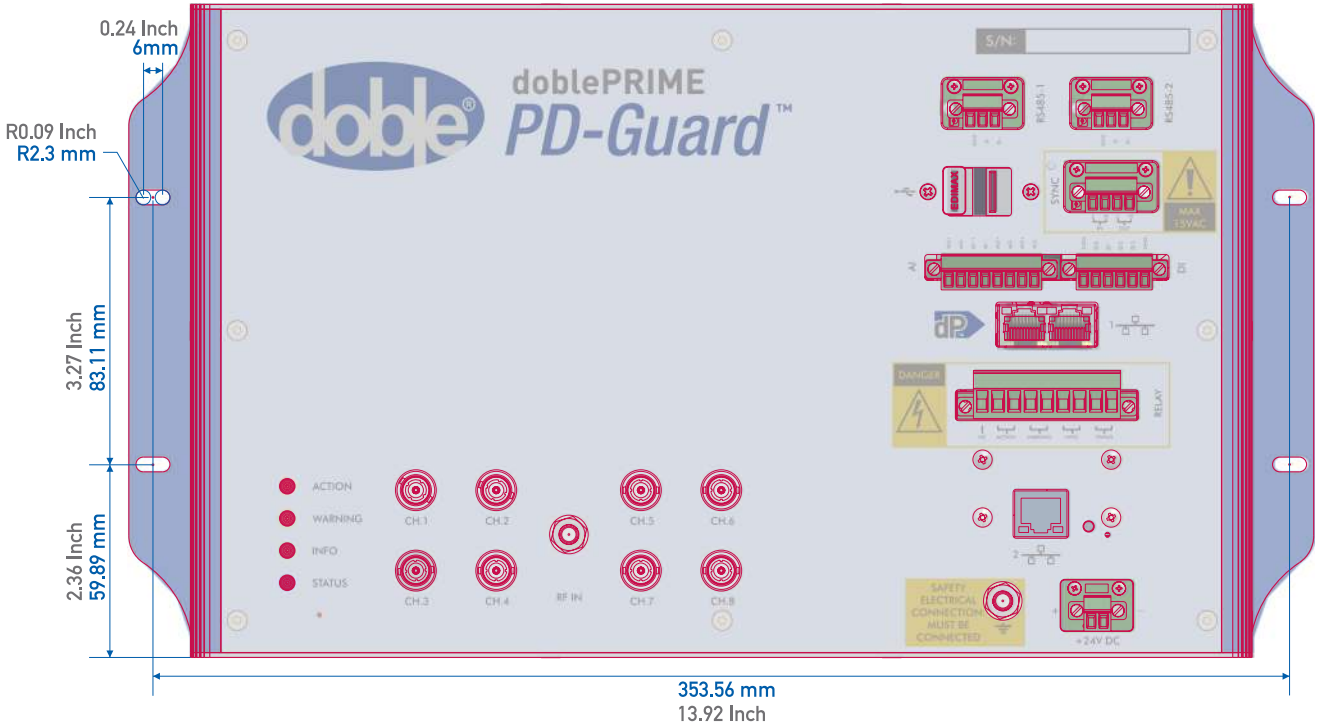
Installation options:

The doblePRIME PD-Guard is provided in an anodized aluminum housing,
compatible with other doblePRIME modules for ease of installation.

The installation options are:

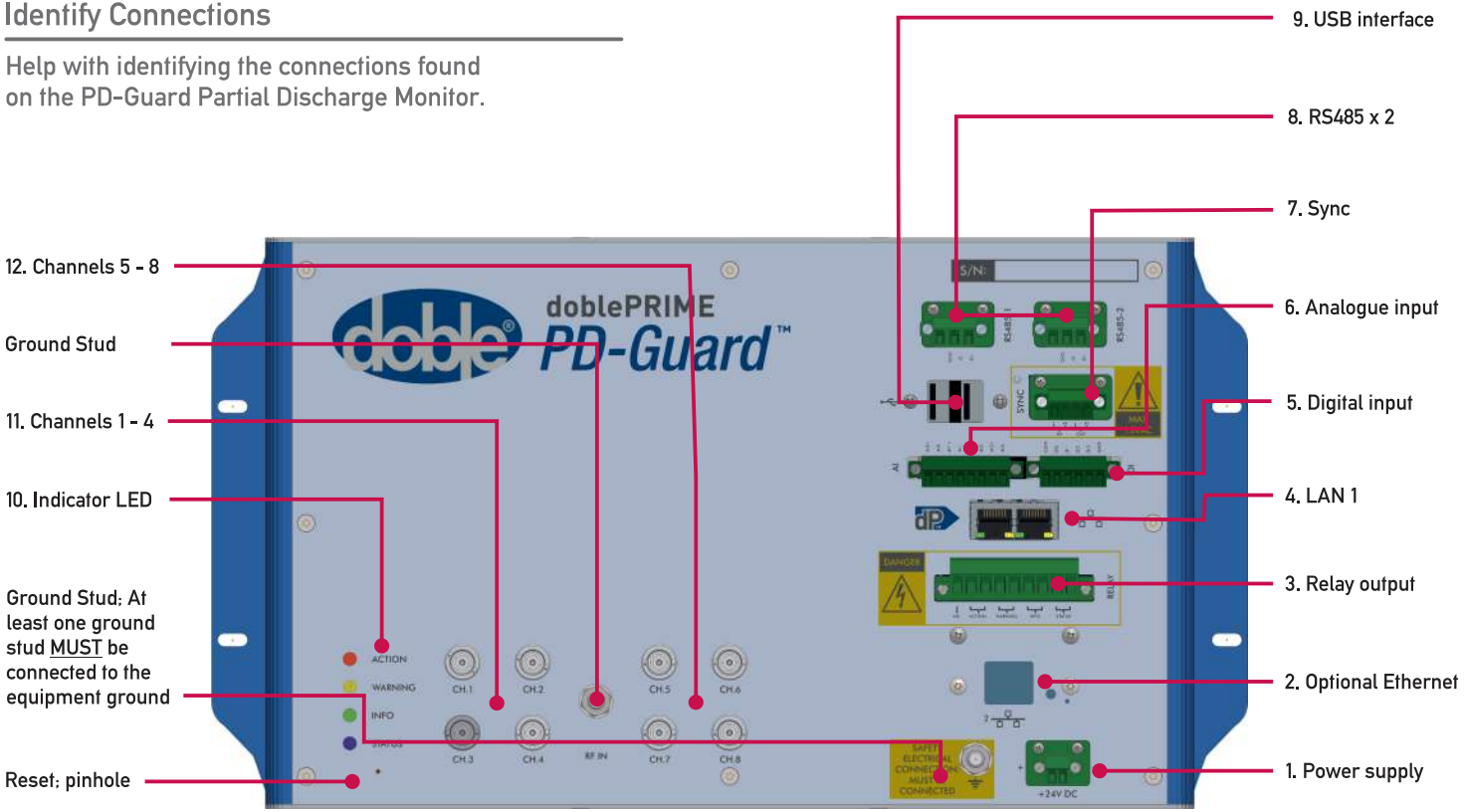
- Panel Mount: using brackets provided.
- DIN Rail Mounting: DIN Rail bracket is available as part of the 030-2176-01 Kit
- Free Standing: Rubber feet can be supplied as part of the 030-2176-01 Kit

Panel Mount hole locations



Identify Connections

Help with identifying the connections found on the PD-Guard Partial Discharge Monitor.



Connection Details:

1. Power supply: 24VDC 1A
2. Optional Ethernet interface for IEC-61850 (available Q4 2017)
3. Relay output: 4 x relay, 250VAC 5A, switched according to alert conditions detected by PD Guard a. ACTION (NC); b. WARNING (NC); c. INFO (NC); d. STATUS (NO)
4. LAN 1: Ethernet switch, access to doblePRIME user interface (http) and communication protocols (Modbus TCP, DNP3)
5. Digital input: sink or source, for general purpose measurement of switch state, e.g. pumps, fans, etc.
6. Analogue input: 4 x 4-20mA, for general purpose measurements of analogue values, e.g. DGA, temperature, pressure, etc.
7. Sync input: Wire sync to external AC source
8. RS485: 2-wire, Modbus Master/Slave or DNP3 Master/Outstation, for communication with supervisory systems or monitoring devices
9. USB interface, options: a. WiFi access point; b. Firmware update; c. Data display
10. Indicator LED: switched according to alert conditions detected by PD-GUARD a. ACTION (flashing red); b. WARNING (flashing yellow); c. INFO (flashing green); d. STATUS (flashing blue)
11. Channels 1 - 4: Each channel can be configured for a different type of sensor.
12. Channels 5 - 8: Each channel can be configured for a different type of sensor.

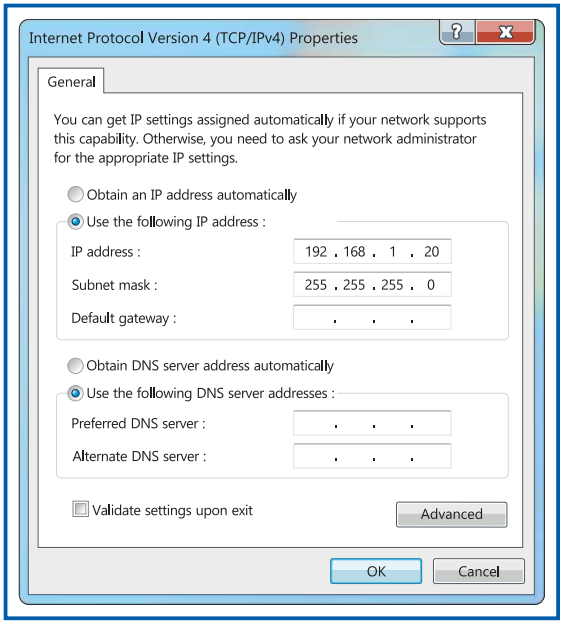
Default IP Configuration

Section A: Login Details

You must have this information to log in:

- doblePRIME IP address - 192.168.1.234
- Username - ad
- Password - idd2ad

If you need any of this information, consult your system administrator.



Section B: Login Procedure

To log in to doblePRIME:

1. When the front panel of the PD-Guard shows blue and green LEDs (see page 4: 11. Indicator LED) the device has finished booting, this normally takes approximately 1 minute, the PD-Guard will now require an additional 30 seconds to start communicating.
2. Connect your computer to the PD Guard using an ethernet cable.
3. Set your computer IP address and subnet to match the PD-Guard (see image: left)
4. Open a browser and enter the IP address.
5. Enter your username and password.
6. (Optional) If this is the first time you have logged in, Doble recommends that you change your password immediately. Do not continue to use the password provided by Doble.
7. Click Sign In.

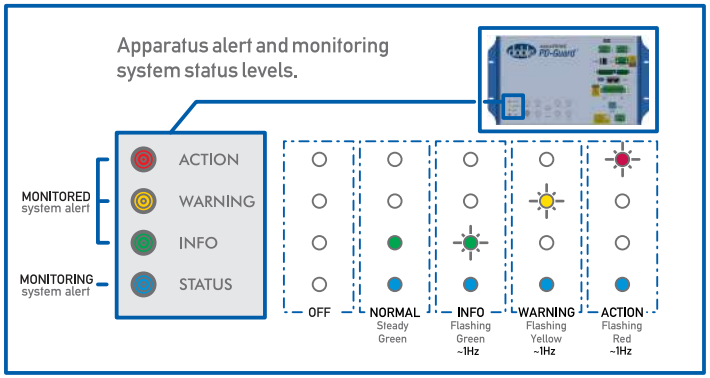
Section C: Reset Procedure

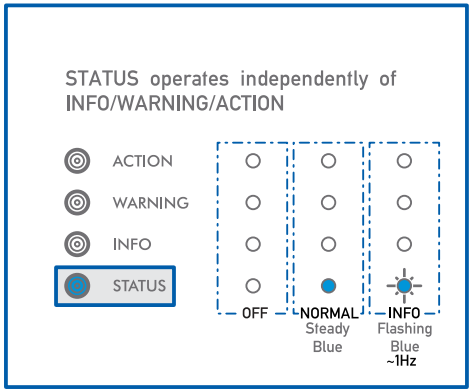
Details of the procedure:

1. Perform the IP reset on the PD-Guard by inserting and holding a paperclip or similar in the pinhole (see pinhole location on page 4: Identify Connections): the LEDs will go out then light up in sequence bottom to top, when all the LEDs start flashing at the same time you can release the paperclip from the pinhole.
2. After the paperclip is removed out of the pinhole the PD-Guard will perform a reset itself.
3. Go to section B to continue.

Troubleshooting Indicators

A normal state is indicated by the green and blue indicator LEDs being lit.





OPERATION:

BLUE -
indicates system active

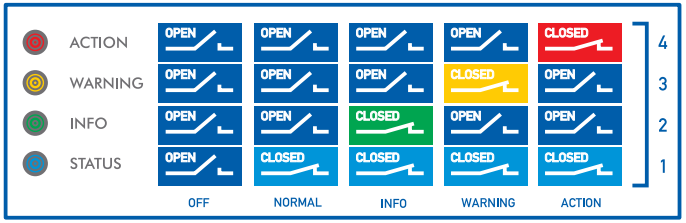
STEADY GREEN -
indicates Normal (healthy) state.

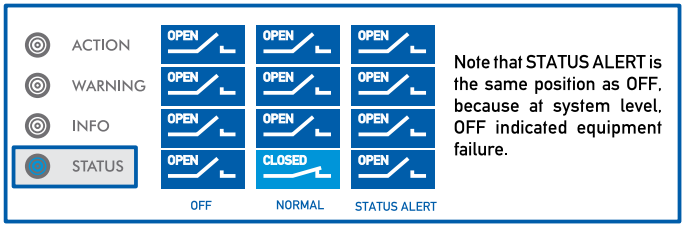
FLASHING GREEN -
indicates transition to INFO.
INFO provides information
.
FLASHING YELLOW -
indicates WARNING.
Requires further investigation.

FLASHING RED -
indicates ACTION.
Requires immediate attention!

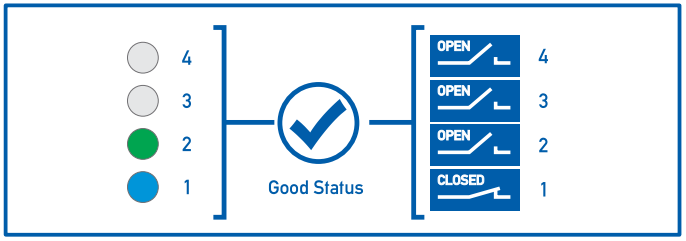
RELAY:

OPERATION in NORMAL condition:
INFO/WARNING/ACTION - Normally OPEN
STATUS - Normally Closed





Note that STATUS ALERT is the same position as OFF, because at system level, OFF indicated equipment failure.



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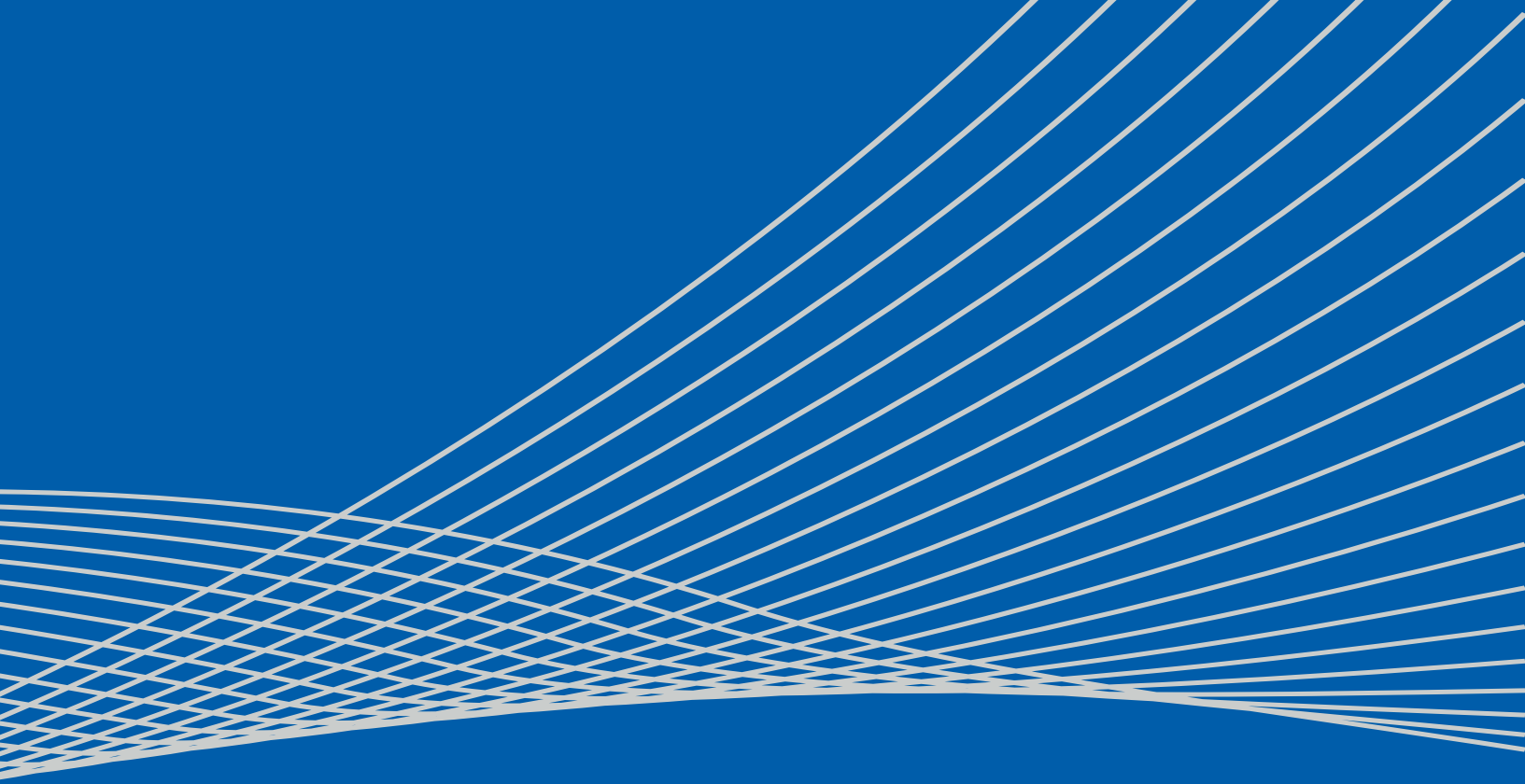

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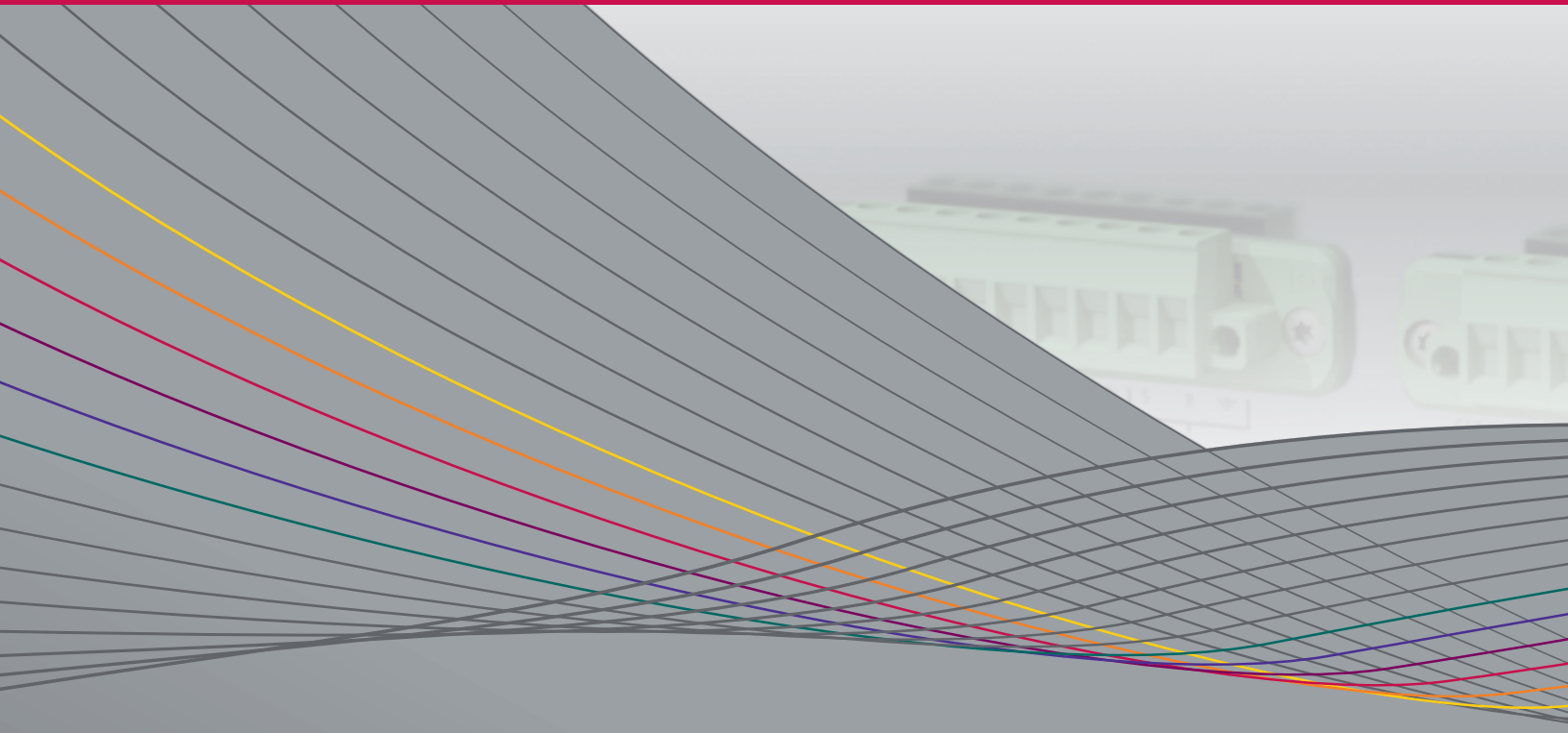

EXPERIENCE.
KNOWLEDGE.
INSIGHT.

SOLUTIONS BUILT ON A CENTURY
OF INNOVATION AND EXPERTISE.

PD-GUARD