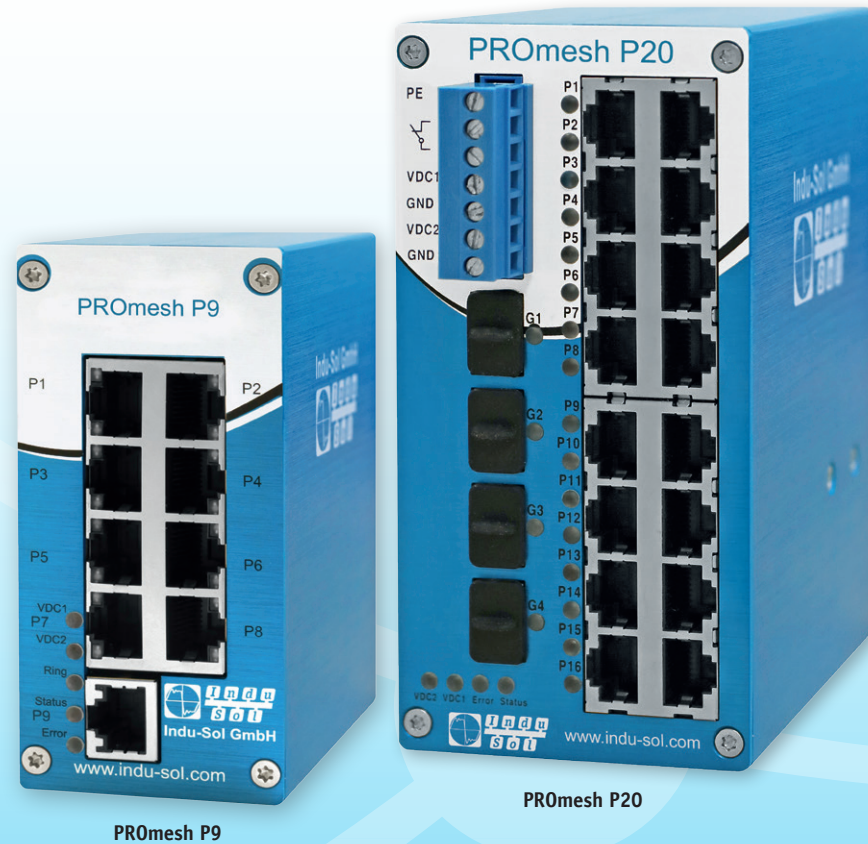




Simple. Unique. Pioneering.



# PROFINET/ETHERNET Switches PROmesh P20 & P9

Simple. Unique. Pioneering.

- Products
- Diagnosis
- Monitoring
- Training
- Consulting

## Highlights

- Full PROFINET I/O support according to Conformance Class B
- Maximum network performance according to Netload Class III
- Innovative plant protection through leakage current monitoring
- Extensive diagnostics and alert function integrated
- Quick configuration with web browser and SD memory card (removable)

### Additional features PROmesh P20:

- Secured data exchange from OT to IT through NAT Routing Firewall
- Flexible integration via SFP transceiver modules (with up to 1 Gbps)

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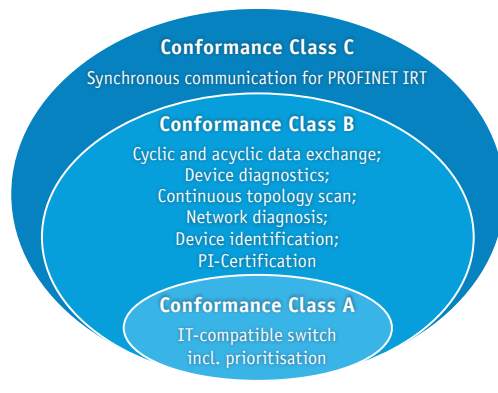
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## Basic features

The Indu-Sol PROFINET Switches **PROmesh P9** and **P20** are the first full PROFINET switches that are equipped for the increased performance requirements in the PROFINET and conform to Conformance Class B as well as Netload Class III requirements. With their optimised shielding contacts in the RJ45 jacks and leakage current monitoring the PROFINET/Ethernet switches have a high EMC resistance required in the industrial environment.

## Conformance Class

The functionality of PROFINET IO devices is divided in clear conformance classes. These summarise different minimum characteristics. For infrastructure components like switches the conformance class B is of special importance as it includes the fundamental PROFINET functionalities and therefore covers the requirements of 99% of all the PROFINET networks installed in the field.

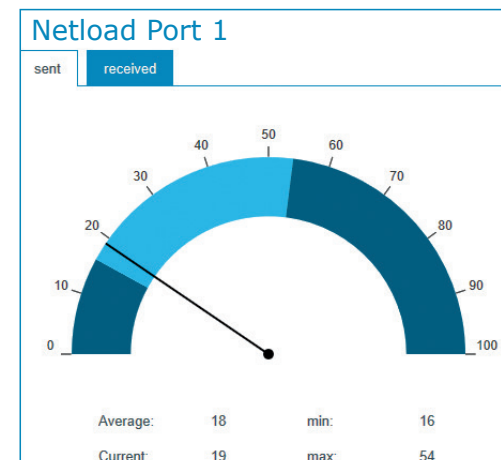


## Advanced features

Beyond the basic properties of the **PROmesh P9** the **PROmesh P20** provides for the full integration of your OT networks into the process and hall level. The **PROmesh** manage the data traffic with an electrical or optical connection via SFP transceiver modules, thereby attaining high quality of service. QoS and CoS as well as an advanced NAT routing firewall achieve an optimal prioritisation of application data. Only authorised network users have access to the network.

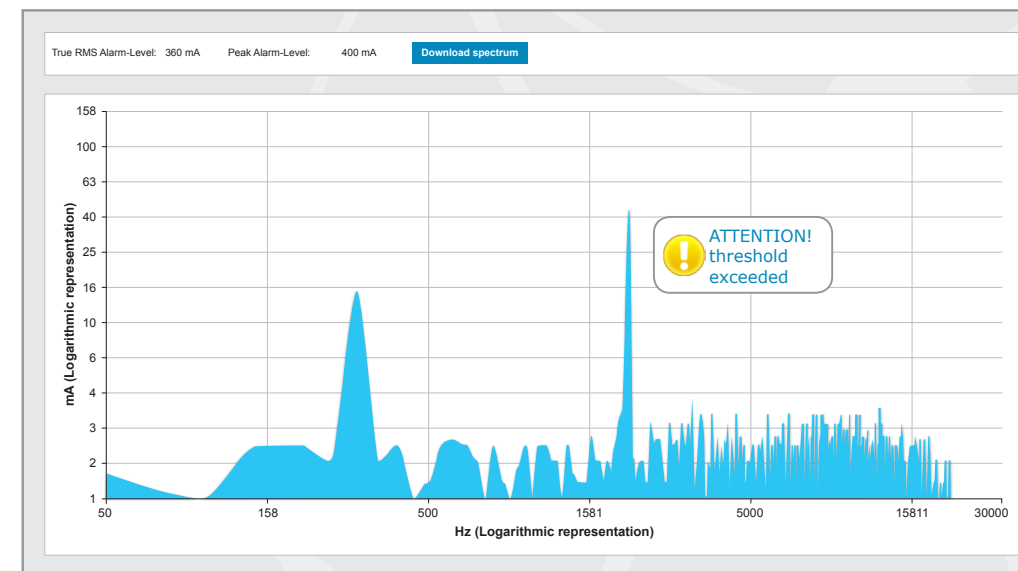
## Netload Class III

Netload classes define the sturdiness of a device in regard of the intensity of the data traffic. The **PROmesh P9** and **P20** are certified for the highest netload class III. For the first time a switch with more than 9 or 20 ports fulfils these requirements. Therefore, the new switch is the foundation for a frictionless operation thanks to stable network communication.



## Leakage current monitoring

EMC couplings are more and more the reason for network errors and even network failures. In order to prevent this, it is reasonable to monitor leakage currents. Therefore, the **PROmesh P9** and the **PROmesh P20** provide for leakage current monitoring. This feature is also used for acceptance test and replaces the shield current measurement with EMC certification.



## Netload display with millisecond precision

In PROFINET networks even briefest peaks in the network utilization can lead to a malfunction in the data communication and thus cause faults. To properly detect these network peaks, the **PROmesh** series determines the network utilisation with millisecond precision and presents them graphically on the web interface or issues an appropriate alarm if exceeded.

## Diagnostic function

The **PROmesh P9** and **P20** diagnostic function can be configured individually to meet your and your networks needs. So you will be informed immediately, if changes in your network occur:

- Number of error telegrams (Errors)
- Number of discarded telegrams (Discards)
- Network load level
- Correct port configuration
- Leakage current level

## Product features



General data	PROmesh P20	PROmesh P9
Power supply	redundant, 24V DC +/- 50%	redundant, 24V DC +/-20%
Current consumption, max.	0.92A	0.8A
Power consumption, max.	22W	8W
Dimensions (H*W*D)	138 x 68 x 130 mm	105 x 49 x 112 mm
Weight, net	960 g	490 g
Housing: Aluminium alloy, anodized	✓	×
Temperature, storage: -40°C to +85°C	✓	×
Temperature, operation: 0°C to +55°C	✓	×
IP protection class	IP30	IP20
Mounting: DIN rail, 35mm	✓	×
Bandwidth control	20/20 Ports	9/9 Ports
Mirror port: send and receive	✓	×
Routing function	extended NAT routing	intelligent package filtering
PROFINET Conformance Class B	✓	×
Netload Class III	✓	×
<b>Data connection</b>		
■ RJ-45	16	9
■ SFP Transceiver Module	4	–
■ 10/100Base-TX	✓	×
■ 1000Base-X	✓	–
■ Switching Mode: Store & Forward	✓	×
<b>Leakage current monitoring</b>		
■ Measuring range	0-25 A	0-10 A
■ Measurement rate: 25kHz	✓	×
<b>Diagnosis and Alerts</b>		
■ PN-RTA	✓	×
■ SNMP	✓	×
■ Email	✓	×
■ Relais contact	✓	×
<b>Security</b>		
■ Port Filter	✓	–
■ IP Filter	✓	–
■ VLAN	✓	✓
■ IP based network access	✓	–
■ User authentication, access control	✓	✓
<b>Quality of Service</b>		
■ Link aggregation	✓	–
■ Active bandwidth control	✓	✓
■ Port filter	✓	✓
■ CoS - package based prioritisation	✓	✓
■ Dynamic queueing	✓	✓

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