

## DIAGNOSTIC-SWITCH PROmesh P24+

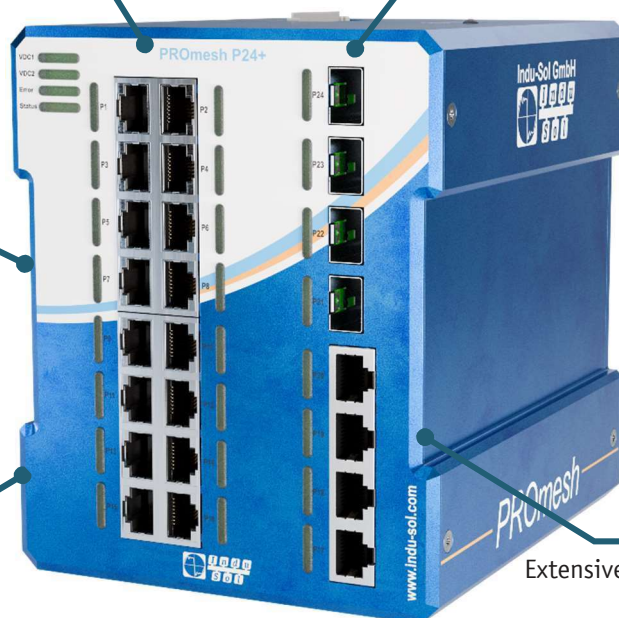
**Item no.: 114110230**

The PROmesh P24+ is a fully-managed Industrial Ethernet/PROFINET switch for industrial automation systems.

Increased network security thanks to integrated firewall functions.  
Connect your machine and production network using NAT.

Continuous diagnosis of the connected lines during operation.

You can configure it easily and conveniently via its integrated web interface.



Extensive diagnostic functions: Find out about your network status, the interference reserve of cables as well as EMC and environmental influences (e.g. vibrations, light, ...) at any time.

### HIGHLIGHTS

#### Integrated diagnosis:



- Online line monitoring
- Network monitoring (Network load, discards, errors)
- Environmental monitoring (Leakage current, vibration, light, humidity)



#### High Performance:

- Full Gigabit and transfer rates up to 10 Gbit/s
- Quality of Service
- 8 Priority Queues

## DIAGNOSTIC-SWITCH PROmesh P24+ | Technical Details

|                                                                       |                                     |
|-----------------------------------------------------------------------|-------------------------------------|
| <b>Network interfaces</b>                                             |                                     |
| RJ45 Ports                                                            |                                     |
| Interfaces                                                            | 20 (designation P1 – P20)           |
| Transfer rates                                                        | 10 Mbit/s<br>100 Mbit/s<br>1 Gbit/s |
| Status LED                                                            | Link + data exchange                |
| SFP-Ports                                                             |                                     |
| Interfaces                                                            | 4 (designation P21 – P24)           |
| Transfer rates                                                        | 100 Mbit/s<br>1 Gbit/s<br>10 Gbit/s |
| Status LED                                                            | Link + data exchange                |
| <b>Further device interfaces</b>                                      |                                     |
| Status LED                                                            | VDC 1<br>VDC 2<br>Status<br>Error   |
| Data memory                                                           | SD card                             |
| Reset                                                                 | Button                              |
| Sensors                                                               | Light<br>Air humidity               |
| <b>Supply voltage, current consumption, power loss, alarm contact</b> |                                     |
| Connections                                                           |                                     |
| Power supply                                                          | 2 x 0,2 – 2,5 mm <sup>2</sup>       |
| Redundant power supply                                                | 2 x 0,2 – 2,5 mm <sup>2</sup>       |
| Functional earthing (FE)                                              | 1 x 0,2 – 2,5 mm <sup>2</sup>       |
| Alarm contact                                                         | 2 x 0,2 – 2,5 mm <sup>2</sup>       |
| <b>Operating parameters</b>                                           |                                     |
| Supply voltage (nominal value)                                        | 24 VDC                              |
| Supply voltage (min.)                                                 | 12 VDC                              |
| Supply voltage (max.)                                                 | 48 VDC                              |
| Current consumption (max.)                                            | 2,1 A                               |
| Power loss (max.)                                                     | 24,9 W                              |
| Fuse protection (supply voltage input)                                | 7 A/125 W                           |
| <b>Design, dimensions, weight</b>                                     |                                     |
| Material (housing)                                                    | Metal                               |
| Mounting                                                              | Top hat rail                        |
| Width                                                                 | 130 mm                              |
| Height                                                                | 155 mm                              |
| Depth                                                                 | 155 mm                              |
| Installation distance (vertical)                                      | 50 mm                               |
| Installation distance (horizontal)                                    | 50 mm                               |
| Weight (net)                                                          | 2200 g                              |

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|                          |                                                                                                                                            |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental conditions |                                                                                                                                            |
| Operating temperature    | -40 – 75°C                                                                                                                                 |
| Storage temperature      | -40 – 85°C                                                                                                                                 |
| Humidity, rel.           | 5 – 95% non-condensing                                                                                                                     |
| Protection class         | IP20                                                                                                                                       |
| Functions                |                                                                                                                                            |
| Basic parameters         |                                                                                                                                            |
| Switching technology     | Store-and-Forward                                                                                                                          |
| MAC address table        | 16 k                                                                                                                                       |
| Packet memory            | 2 Mbit                                                                                                                                     |
| Backplane capacity       | 80 Gbps                                                                                                                                    |
| Throughput               | 120 Mpps                                                                                                                                   |
| MTBF                     | 50 years                                                                                                                                   |
| Quality of Service (QoS) |                                                                                                                                            |
| Queues per port          | 8                                                                                                                                          |
| Prioritization functions | Port-based<br>Class of Service (CoS)<br>Type of Service (ToS)                                                                              |
| Prioritization methods   | Strict prioritization<br>Weighted prioritization                                                                                           |
| Bandwidth control        | Inbound and outbound                                                                                                                       |
| VLAN                     |                                                                                                                                            |
| Protocol function        | Port-based                                                                                                                                 |
| Quantity                 | 4096                                                                                                                                       |
| Protocols/Services       |                                                                                                                                            |
| Management access        | http<br>https                                                                                                                              |
| Network access           | SNMPv1<br>SNMPv2c<br>SNMPv3<br>DHCP Client<br>DHCP Server                                                                                  |
| E-mail                   | SMTP Client                                                                                                                                |
| Time synchronization     | SNTP Client<br>SNTP Server                                                                                                                 |
| Neighborhood             | LLDP                                                                                                                                       |
| IP setting               | Static<br>PROFINET<br>DHCP                                                                                                                 |
| Multicast/Broadcast      | Broadcast Limitation<br>IGMP Snooping (max multicast group is 512)                                                                         |
| Redundancy               | MRP Master<br>MRP Client<br>MRP Interconnection<br>Multi MRP<br>STP<br>RSTP<br>MSTP<br>Static link aggregation<br>Dynamic link aggregation |
| Event log                | Syslog                                                                                                                                     |

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|                            |                                                                                                                                                                            |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applications</b>        |                                                                                                                                                                            |
| PROFINET                   |                                                                                                                                                                            |
| Standard                   | PROFINET 2.4                                                                                                                                                               |
| Device class               | Device                                                                                                                                                                     |
| Conformity class           | B                                                                                                                                                                          |
| Netload Class              | III                                                                                                                                                                        |
| Realtime Class             | 1                                                                                                                                                                          |
| EtherNet/IP                |                                                                                                                                                                            |
| EtherNet/IP                | EDS-file                                                                                                                                                                   |
| <b>Diagnosis</b>           |                                                                                                                                                                            |
| <b>Functions</b>           |                                                                                                                                                                            |
| Line diagnostics           | Online quality analysis                                                                                                                                                    |
| Port statistics            | Erros<br>Discards<br>Network load/ms + Network load/s<br>Neighborhood                                                                                                      |
| Leakage current monitoring | Sampling rate 18 kHz<br>Bandwidth 25,6 kHz<br>Measuring range 0-10 A<br>Resolution 1mA                                                                                     |
| Temperature                | Measuring range -40 – 75°C<br>Resolution 1°C                                                                                                                               |
| Port Mirroring             | Incoming or incoming and outgoing packets<br>Multiple source ports possible                                                                                                |
| <b>Alerting</b>            |                                                                                                                                                                            |
| Trigger                    | Port (up, down, status change)<br>Line quality<br>Network load<br>Leakage current<br>Sensors (light, humidity)<br>Neighborhood<br>Temperature<br>MRP<br>Discards<br>Errors |
| Receiver                   | PROFINET<br>E-mail<br>SNMP Trap<br>Alarm contact                                                                                                                           |

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| Standards, guidelines, approvals |                      |
|----------------------------------|----------------------|
| EMC                              |                      |
| Directive                        | 2014/30/EU           |
| Interference emission            | EN 55032             |
| Interference immunity            | EN 61000-6-2         |
| ESD                              | IEC 61000-4-2        |
| Mechanical stability             |                      |
| Vibration                        | IEC 60068-2-6        |
| Shock                            | IEC 60068-2-27       |
| Free fall                        | IEC 60068-2-32       |
| Approval                         |                      |
| Europe                           | CE                   |
| USA                              | UL                   |
| Canada                           | CSA                  |
| Environment                      |                      |
| RoHS                             | 2011/65/EU           |
| REACH                            | 1907/2006/EG         |
| FCC                              |                      |
| Overvoltage protection           | IEC 6100045, Level 3 |
| EFT                              | IEC 6100044          |

## DIAGNOSTIC-SWITCH PROmesh P24+ | Technical Drawing

