

- Integrated Industrial-Ethernet-Fieldbus
- Backlit two-row LCD
- Display of target and actual value displays with integrated alignment
- Stainless-steel hollow shaft  $\varnothing 20$  mm, up to  $\varnothing 25.4$  mm as an option
- Robust sensor technology unit thanks to magnetic scanning
- User guidance through status LEDs
- Mechanically compatible with the DA09S and AP10 position indicators
- IP53 protection class, IP65 as an option
- Industry 4.0 ready



| Feature | Technical data            | Additional information                                          |
|---------|---------------------------|-----------------------------------------------------------------|
| Shaft   | rustproof stainless steel |                                                                 |
| Housing | reinforced plastic        | plug thread, nickel-plated brass/cover, metal ground connection |
| Color   | black                     |                                                                 |
| Speed   | ≤500 min-1                |                                                                 |
| Weight  | ~0.3 kg                   |                                                                 |

### Electrical data

| Feature               | Technical data                                                                                            | Additional information                                                                                 |
|-----------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Operating voltage     | 24 V DC $\pm 20\%$                                                                                        |                                                                                                        |
| Current consumption   | ~100 mA                                                                                                   |                                                                                                        |
| Battery service life  | ~8 Year(s)                                                                                                |                                                                                                        |
| Parameter storage     | 10 <sup>6</sup> cycles                                                                                    | also applies to calibration operations                                                                 |
| Display/display range | 6-digit LCD 14-segment, ~8 mm high<br>-199999 ... 999999                                                  | decimal points, 2 rows, special characters (backlit LED red/white)<br>expanded display area to -999999 |
| Special character     | cw arrow, ccw arrow, incremental measurement, battery                                                     |                                                                                                        |
| Status display        | 2x two-color LED (red/green)                                                                              | position status, configurable                                                                          |
| Keys                  | incremental measurement function, parameterizing, resetting                                               |                                                                                                        |
| Interface             | EtherNet/IP<br>PROFINET<br>EtherCAT<br>POWERLINK                                                          |                                                                                                        |
| Type of connection    | 1x M8-plug connector (A-coded)<br>2x M12 plug connectors (D-coded)<br>grounding via flat connector 6.3 mm | 4-pole, 1x pin<br>4-pole, 2x socket                                                                    |

### System data

| Feature         | Technical data            | Additional information                       |
|-----------------|---------------------------|----------------------------------------------|
| Scanning        | magnetic                  |                                              |
| Resolution      | 880 Increments/revolution | displayed value/rotation freely configurable |
| Measuring range | $\leq 190650$ rotation(s) |                                              |

### Ambient conditions

| Feature              | Technical data                         | Additional information                                                       |
|----------------------|----------------------------------------|------------------------------------------------------------------------------|
| Ambient temperature  | 0 ... 60 °C                            |                                                                              |
| Storage temperature  | -20 ... 80 °C                          |                                                                              |
| Relative humidity    |                                        | condensation inadmissible                                                    |
| EMC                  | EN 61326-1                             | immunity requirement of industrial applications, emission limit class B      |
| Protection category  | IP53<br>IP65                           | EN 60529, only with mating connector<br>EN 60529, only with mating connector |
| Shock resistance     | 500 m/s <sup>2</sup> , 11 ms           | EN 60068-2-27                                                                |
| Vibration resistance | $<100$ m/s <sup>2</sup> , 5 ... 150 Hz | EN 60068-2-6                                                                 |

### pin assignment

#### ■ Ethernet

| Signal | PIN |
|--------|-----|
| Tx+    | 1   |
| Rx+    | 2   |
| Tx-    | 3   |
| Rx-    | 4   |

#### ■ Operating voltage

| Signal   | PIN |
|----------|-----|
| reserved | 1   |
| reserved | 2   |
| +UB      | 3   |
| GND      | 4   |

### Industry 4.0

In most cases, data exchange with the position indicators is limited to the exchange of process data. In addition to the process data, intelligent displays provide additional information that can be evaluated for condition monitoring up to predictive maintenance:

| Process data      | Smart Value                          | Smart Function          |
|-------------------|--------------------------------------|-------------------------|
| Actual position   | Battery voltage                      | Battery change planning |
| "Target position" | Presence, distance, alignment sensor | Counting error          |

Order

■ Ordering table

| Feature               | Ordering data | Spezifikation | Additional information       |
|-----------------------|---------------|---------------|------------------------------|
| interface/protocol    | A             | ECT           | EtherCAT                     |
|                       |               | EIP           | EtherNet/IP                  |
|                       |               | EPL           | POWERLINK                    |
|                       |               | EPN           | PROFINET                     |
| hollow shaft/diameter | B             | 20            | ø20 mm                       |
|                       |               | 25.4          | ø25.4 mm                     |
|                       |               | RH14          | ø14 mm<br>Adapter sleeve     |
| torque pin/position   | C             | II            | distance 30 mm               |
|                       |               | I             | distance 22 mm               |
| Protection category   | D             | IP53          | IP53                         |
|                       |               | IP65          | IP65                         |
| Sight window          | E             | SF            | front foil                   |
|                       |               | K             | plastic<br>impact protection |

■ Order key



Scope of delivery:

AP20, Installation Instructions



Accessories you can find:

- Pneumatic clamping plate KP09P
- Clamping plate KPL09
- Cable extension KV04S1
- Battery unit ZB1027
- Adapter sleeve RH09
- Overview Mating connector
- Mating connector, 4-pole, socket
- Mating connector, 4-pole, angular pin
- Mating connector, 4-pole, pin
- Intermediate plate

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