

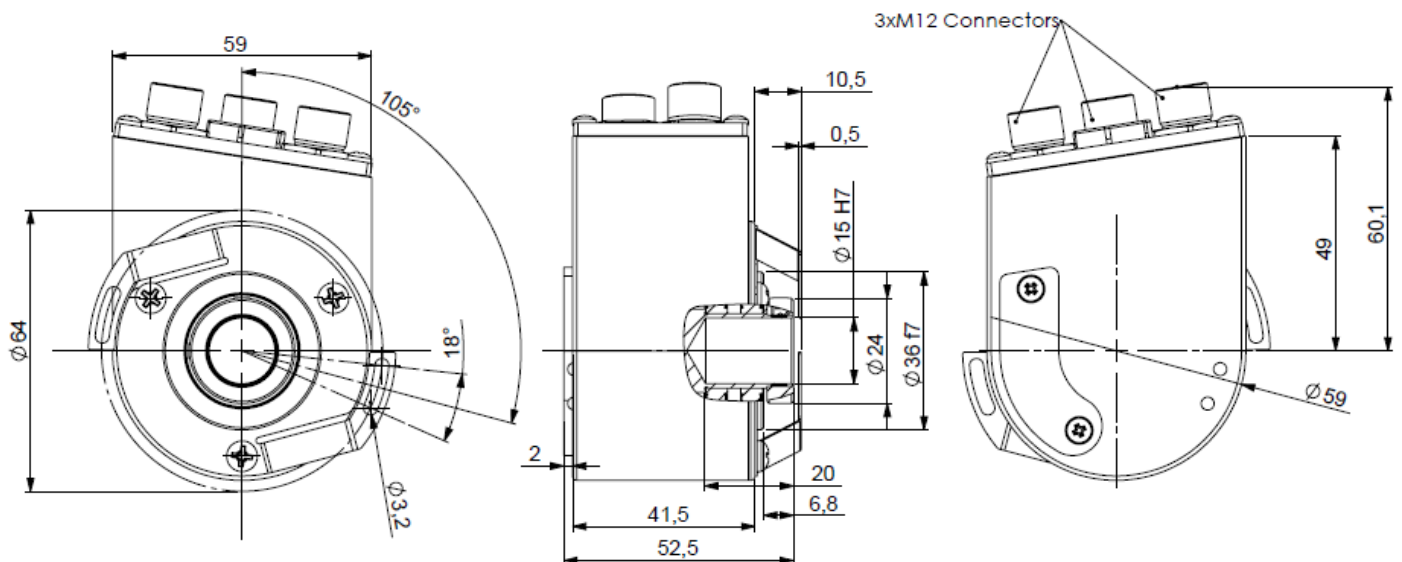
ABSOLUTE MULTI-TURN ENCODER, PROFIBUS INTERFACE, PHK5 SERIE (3 x M12)

PHK5, new generation of Profibus absolute multi-turn encoders :

- Extra-flat encoder, blind shaft up to 14mm (15mm option), reduction hubs available: 6, 8, 10, 12mm,
- Also available in through shaft version,
- Robustness and excellent resistance to shocks / vibrations,
- High protection level IP65,
- High performances in temperature -20°C to +85°C,
- 5 to 30 Vdc power supply,
- Standard resolution : 8192 points per revolution (13 bits resolution),
- High resolution available in option: 65 536 points par revolution (16 bits resolution),
- Turns numerisation up to 65 536 (16 bits),
- Connection via M12 connectors,
- DPV0, Class 2, encoder profile 3.062,
- PHK5 also available with SSI, programmable SSI, CANopen and RS232 interface.



DIMENSION : PHK5 Profibus - connection 3xM12 - with DACs 9445/016* mounted on bearings housing



* Accessory to be ordered separately (standard DAC system : M9445/016)

MECHANICAL CHARACTERISTICS

| | | | |
|------------------------|--|---|--|
| Material | Cover : treated steel | Vibration (EN60068-2-6) | ≤ 100m.s ⁻² (10 ... 2 000 Hz) |
| | Body: aluminium | EMC | EN 61000-6-4, EN 61000-6-2 |
| | Shaft : stainless steel | Isolation | 100V (1 min) |
| Bearings | 6 803 serie | Weight | 0,700 kg |
| Maximum load | Axial : 20 N | Operating temperature | - 20 ... + 85 °C (encoder T°) |
| | Radial : 50 N | Storage temperature | - 20 ... + 85 °C |
| Shaft inertia | ≤ 2,2.10 ⁻⁶ kg.m ² | Protection(EN 60529) | IP 65 |
| Torque | ≤ 6.10 ⁻³ N.m | Torque (ring pressure screw) | nominal: 1.5N.m, break: 2.0N.m |
| Permissible max. speed | 6 000 min ⁻¹ | Theoretical mechanical lifetime 10 ⁹ turns (F _{axial} / F _{radial}) | |
| Continuous max. speed | 6 000 min ⁻¹ | 10 N / 25 N | 230 |
| Shock (EN60068-2-27) | ≤ 500m.s ⁻² (during 6 ms) | 20 N / 50N | 29 |

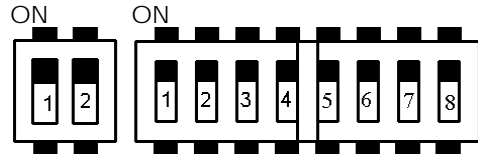
ABSOLUTE MULTI-TURN ENCODER, PROFIBUS INTERFACE, PHK5 SERIE (3 x M12)

GENERALITY

Transmission frequency: from 9.6Kbaud to 12Mbaud.

Electronic interface: opto-isolated RS485.

Adress: permits the addressing of each encoder in an installation (32 master stations or slaves stations per segment without repetitor, 127 maximum with repetitor).



End line resistance termination: 1, 2 "ON" (Beginning or end line)

| | | | | | | | |
|------------------|---|---|---|---|----|----|----|
| Switch - on "ON" | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| = | 1 | 2 | 4 | 8 | 16 | 32 | 64 |

Switch 8 on "OFF".

Example: Adress 5: Switch 1 & 3 on "ON", others on "OFF".

PROGRAMMABLE PARAMETERS

Direction : Permits the definition of the counting direction of the encoder (CW or CCW) following its mechanical position.

Resolution : the number of points per turn can be between 0 and 8192, option: 0 to 65536.

Global resolution (MAX RANGE) : Total number of codes of the encoder (2 to 536 870 912, option 2 to 2 147 483 648).

Reset : defines the value of its actual position.

Time base : defines the base time for the speed calculation (10 ms , 100 ms, 1 s, speed in rpm).

CONNECTION

BUS IN (M12 - 5 male pinouts B code)

| | | | | | |
|--------|----|-------|----|-------|----|
| Signal | NC | BUS A | NC | BUS B | NC |
| Pinout | 1 | 2 | 3 | 4 | 5 |

NC : do not connect

BUS OUT (M12 - 5 female pinouts B code)

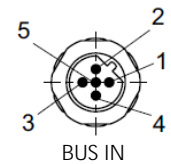
| | | | | | |
|--------|-----|-------|---------|-------|----|
| Signal | P5V | BUS A | BUS GND | BUS B | NC |
| Pinout | 1 | 2 | 3 | 4 | 5 |

P5V & BUS GND for the connection of the end-line termination resistance.

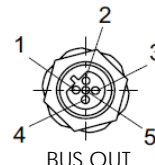
POWER SUPPLY (M12 - 4 male pinouts A code)

| | | | | |
|--------|------|----|------|----|
| Signal | +Vcc | NC | 0Vdc | NC |
| Pinout | 1 | 2 | 3 | 4 |

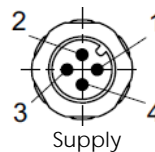
Power supply : 5-30V consumption <200 mA (160mA typ)



BUS IN



BUS OUT



Supply

ORDERING CODE (Special versions upon request, for ex. special flanges/electronics/connections...)

| | Shaft Ø | Supply | Interface | Code | Resolution | Turns Nb | Connection | Connection orientation |
|-----------|---|-------------------|------------------|---------------|---|---|-------------------------|------------------------|
| PHK5 | 14 : 14mm Reduction hub available 15 : 15mm option | P : 5 to 30Vdc | BG : Profibus | B : Binary | 13 : 8192 points per turn (2 ¹³) Option 16 : 65 536 points per turn (2 ¹³) | B16 : 65 536 turns (2 ¹⁶) B15 : 32768 turns (2 ¹⁵) | BH: 3 connectors M12 | R : radial |
| Ex: PHO5_ | 14 // | P | BG | B // | 13 | B16 // | BH | R |

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