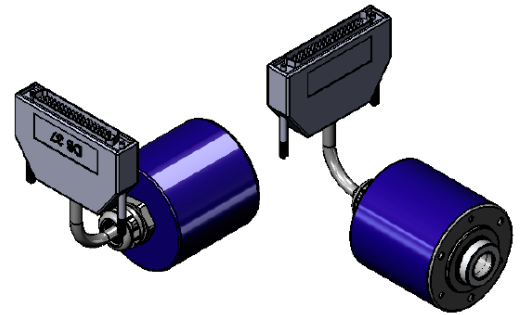
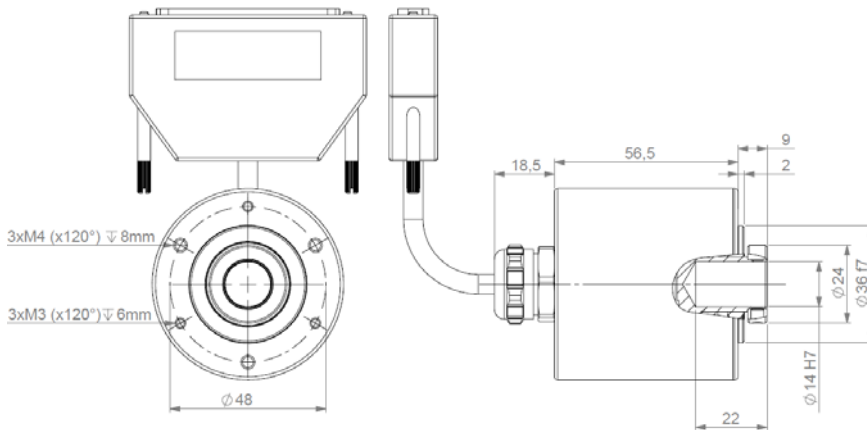


PARALLEL ABSOLUTE MULTITURN ENCODER - PUSH PULL - PHK5 RANGE

- Blind shaft $\varnothing 14\text{mm}$, reduction hub available – 15mm option,
- Robustness and excellent resistance to shocks / vibrations,
- High protection level IP65,
- High performances in temperature -20°C to $+85^{\circ}\text{C}$,
- Parallel output – push pull electronic,
- Universal electronic circuits from 5 to 30Vdc,
- Protection against short-circuits and inversion of polarity,
- High resolutions available: 8192 (13 bits) per turn,
- Turn counting up to 65 536 (16 bits),
- Reset, Select, Latch, Direction functions,
- Option: push-button on the cover for an encoder reset to a value X.

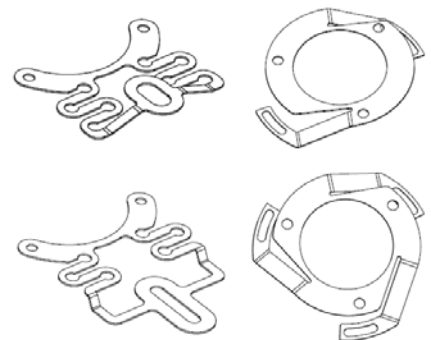


PHK5 PARALLEL DIMENSIONS



DAC SYSTEMS

To be ordered separately – several types available:

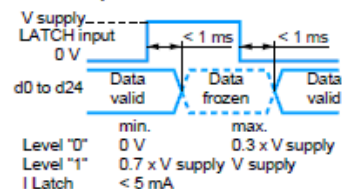


MECHANICAL CHARACTERISTICS

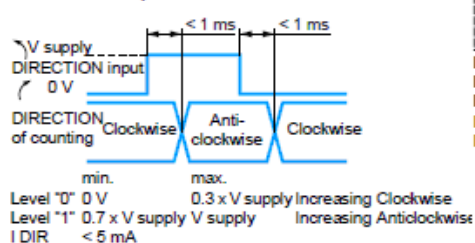
| | | | |
|------------------------|---|---|---|
| Material | Cover : seal | Vibration (EN60068-2-6) | $\leq 100\text{m.s}^{-2}$ (10 ... 2 000 Hz) |
| | Body: aluminium | EMC | EN 61000-6-4, EN 61000-6-2 |
| | Shaft : stainless steel | Isolation | 100V (1 min) |
| Bearings | 6 803 serie | Weight | 0,480 kg |
| Maximum load | Axial : 20 N | Operating temperature | - 20 ... + 85 °C (encoder T°) |
| | Radial : 50 N | Storage temperature | - 20 ... + 85 °C |
| Shaft inertia | $\leq 2,2 \cdot 10^{-6} \text{ kg.m}^2$ | Protection(EN 60529) | IP 65 |
| Torque | $\leq 6 \cdot 10^{-3} \text{ N.m}$ | 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 ($F_{\text{axial}} / F_{\text{radial}}$) | |
| Continuous max. speed | 6 000 min^{-1} | 10 N / 25 N | 185 |
| Shock (EN60068-2-27) | $\leq 500\text{m.s}^{-2}$ (during 6 ms) | 20 N / 50N | 24 |

SCHEMES

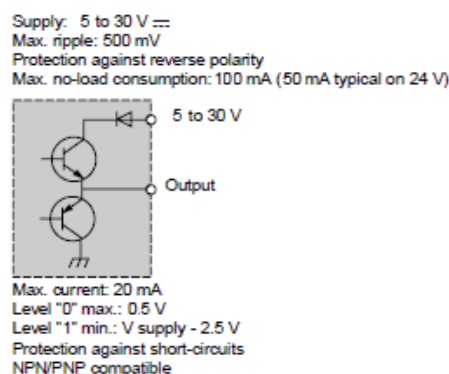
LATCH input



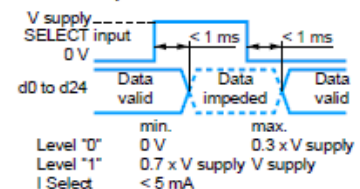
DIRECTION input



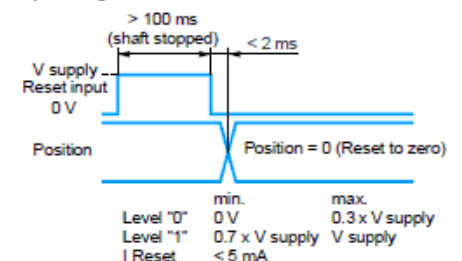
PUSH-PULL



SELECT input



Input stage - Reset to zero



PARALLEL ABSOLUTE MULTITURN ENCODER – PUSH PULL - PHK5 RANGE

ELECTRONIC

| | |
|--------------------|--------------------------------------|
| Power supply | 5 – 30Vdc |
| Introduction | < 1 s |
| Cons. without load | < 100mA (typically 50-60mA at 24Vdc) |
| Position refresh | < 200µs |

PARALLEL CONNECTION

| | | |
|----|--------------------|---------------|
| 1 | GN green | Output Bit 0 |
| 2 | YE yellow | Output Bit 1 |
| 3 | GY grey | Output Bit 2 |
| 4 | PK pink | Output Bit 3 |
| 5 | BU blue | Output Bit 4 |
| 6 | RD red | Output Bit 5 |
| 7 | BK black | Output Bit 6 |
| 8 | VT violet | Output Bit 7 |
| 9 | WH/BN white/brown | Output Bit 8 |
| 10 | WH/GN white/green | Output Bit 9 |
| 11 | WH/YE white/yellow | Output Bit 10 |
| 12 | WH/GY white/grey | Output Bit 11 |
| 13 | WH/PK white/pink | Output Bit 12 |
| 14 | WH/BU white/blue | Output Bit 13 |
| 15 | WH/RD white/red | Output Bit 14 |
| 16 | WH/BK white/black | Output Bit 15 |
| 17 | BN/GN brown/green | Output Bit 16 |
| 18 | BN/YE brown/yellow | Output Bit 17 |
| 19 | BN/GY brown/grey | Output Bit 18 |

| | | |
|----|--------------------|---------------|
| 20 | BN/PK brown/pink | Output Bit 19 |
| 21 | BN/BU brown/blue | Output Bit 20 |
| 22 | BN/RD brown/red | Output Bit 21 |
| 23 | BN/BK brown/black | Output Bit 22 |
| 24 | GN/GY green/grey | Output Bit 23 |
| 25 | GN/PK green/pink | Output Bit 24 |
| 26 | GN/BU green/blue | Reserved |
| 27 | GN/RD green/red | RESET |
| 28 | GN/BK green/black | SELECT |
| 29 | YE/GY yellow/grey | LATCH |
| 30 | YE/PK yellow/pink | DIRECTION |
| 31 | YE/BU yellow/blue | Reserved |
| 32 | YE/RD yellow/red | Reserved |
| 33 | NC | Reserved |
| 34 | YE/BK yellow/black | Reserved |
| 35 | RD/BK red/black | Reserved |
| 36 | BN brown | 5 to 30Vdc |
| 37 | WH white | 0 Vdc |

SELECT

Active data output, pin SELECT at 0Vdc
Non active data output: pin select to +Vcc

LATCH

Active data: pin LATCH to 0Vdc
Data frozen: pin LATCH to +Vcc

DIRECTION, LATCH, RAX and SELECT inputs have to be connected to 0Vdc or +Vcc (LATCH, SELECT and RAX at 0V if not used)
Reserved: Do not connect !

Example of pin assignment for configuration 10x7 bits : data available on pin 1 to 17 - Max: 25 bits (Resolution + Number of turns)

DIRECTION

Increasing code clockwise: pin DIRECTION at 0Vdc
Increasing code counter clockwise: Pin DIRECTION at +Vcc

RAX (PRESET to X):

For an electrical RAX (or push-button option) : pin RAX to +Vcc during minimum 100ms.

ORDERING REFERENCE (Contact the factory for special versions, ex: special flanges, connections, electronics...)

| | Shaft Ø | Supply | Output stage | Code | Resolution | Number of turns | Connection | Orientation |
|--------|--|-------------------|-----------------------------------|----------------------------|--|---|-------------------------------------|--------------------------|
| PHK5 | 14 : 14mm Reduction hub available 15 : 15mm option | P : 5 to 30Vdc | S5 : parallel push-pull output | G: Gray B: Binary | 13 : Standard 13 bits Nota: Available form 0 to 13 bits | B12 Standard 12 bits Nota: Available form 0 to 16 bits Max: 25 bits (Resolution + Number of turns) | S3 Cable + SUBD37 pinouts output | A010 : Axial 1m cable |
| PHK5 _ | 14 // | P | S5 | G // | 13 | B12 // | S3 | A010 |

Made in France