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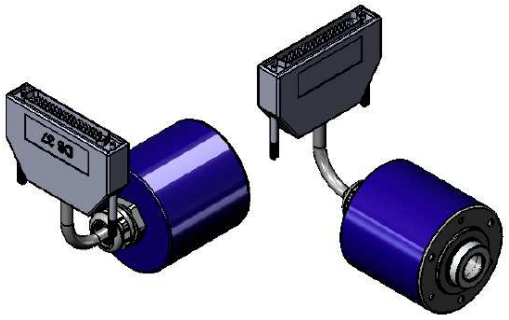
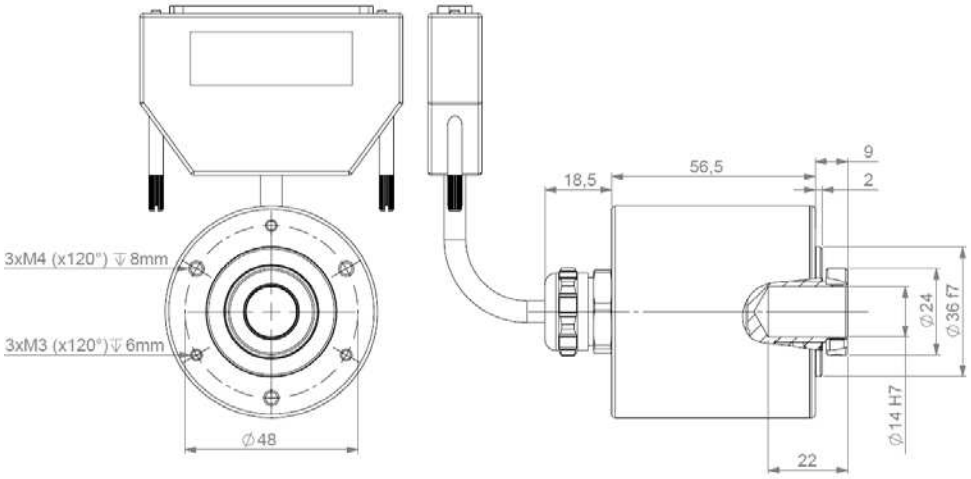
PHK5

PARALLEL ABSOLUTE MULTITURN ENCODER – PNP - NPN - PHK5 RANGE

- Blind shaft 14mm, reduction hub available, 15mm option,
- Robustness and excellent resistance to shocks / vibrations,
- High protection level IP65,
- High performances in temperature –20°C to +85°C,
- Parallel output, PNP or NPN,
- Universal electronic circuits from 11 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.

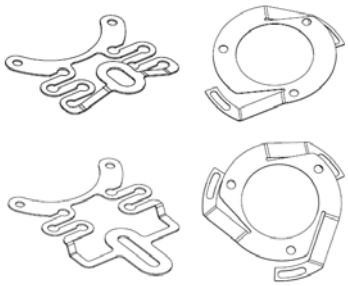


PHK5 PARALLEL DIMENSIONS



DAC SYSTEMS

To be ordered separately – several types available:

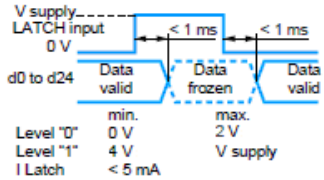


MECHANICAL CHARACTERISTICS

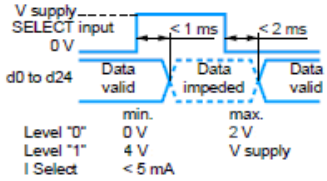
Material	Cover: treated steel	Vibration (EN60068-2-6)	≤ 100m.s^{-2} (10 … 2 000 Hz)
	Body: aluminium	EMC	EN 61000-6-4, EN 61000-6-2
	Shaft : stainless steel	Isolation	100V (1 min)
Bearings	6 803 serie	Weight	0,480 kg
Maximum load	Axial : 20 N	Operating temperature	- 20 ... + 85 °C (encoder T°)
	Radial : 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	185
Shock (EN60068-2-27)	≤ 500m.s^{-2} (during 6 ms)	20 N / 50N	24

SCHEMES

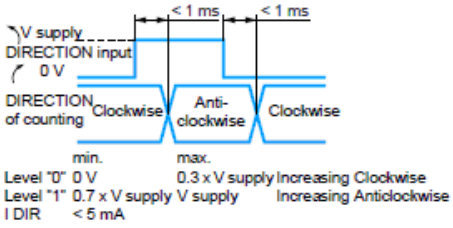
LATCH input



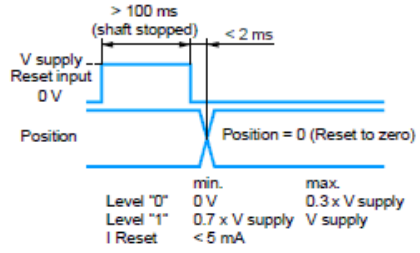
SELECT input



DIRECTION input



Input stage - Reset to zero



ELECTRONIC

Power supply	11 – 30Vdc
Introduction	< 1 s
Cons. without load	< 100mA (typically 50-60mA at 24Vdc)
Position refresh	< 200µs

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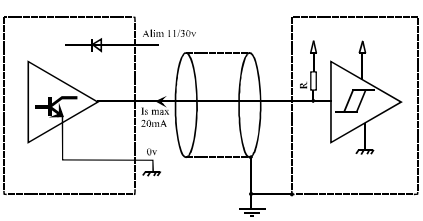
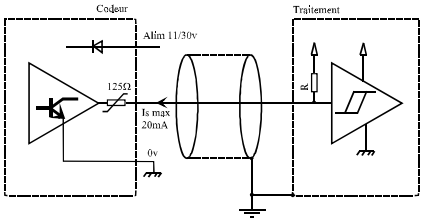
CE

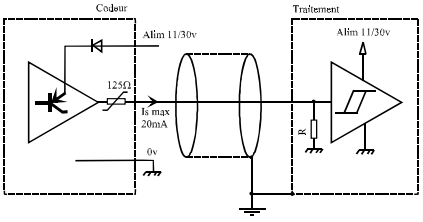
ELECTRONIC



5S0 Electronic: OC NPN
Power supply: 11 to 30Vdc
Current consumption (no load) : <100mA
Max ondulation : 500mV
Level ''0'' max : 1,25Vdc
Protection against polarity inversion



5S1 Electronic: OC NPN + CTP
Power supply: 11 to 30Vdc
Current consumption (no load): <100mA
Max ondulation : 500mV
Level ''0'' max : 3,75V at Is max
Protection against short-circuits
Protection against polarity inversion



5S6 Electronic : OC PNP + CTP
Power supply: 11 to 30Vdc
Current consumption (no load): <100mA
Max ondulation : 500mV
Level ''1'' mini : Vcc - 4,5Vdc at Is max
Protection against short circuits
Protection against polarity inversion

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	11 to 30Vdc
37	WH white	0 Vdc

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

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

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

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

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)

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	**5** : 11 to 30Vdc	**S0** : NPN OC **S1** : NPN OC + CTP **S6** : PNP OC + CTP	**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** //	**5**	**S1**	**G** //	**13**	**B12** //	**S3**	**A010**

Made in France