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HENGSTLER

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HENGSTLER

Absolute

Parallel



Synchro flange

- Compact design
- Aids for start up and operation: diagnostic LED, preset key with optical response (only with MT), status information
- Output Tristate short circuit-proof
- Gray or Binary code
- Encoder monitoring


TECHNICAL DATA
mechanical

Housing diameter	58 mm
Shaft diameter	6 mm / 10 mm (Solid shaft) 10 mm / 12 mm (Hub shaft)
Flange (Mounting of housing)	Synchro flange, Clamping flange, Tether, Square flange
Protection class shaft input (EN 60529)	IP64 or IP67
Protection class housing (EN 60529)	IP64 or IP67
Shaft load axial / radial	40 N / 60 N
Axial endplay of mounting shaft (hubshaft)	± 1.5 mm
Radial runout of mating shaft (hubshaft)	± 0.2 mm
Max. speed	max. 10 000 rpm (continuous), max. 12 000 rpm (short term)
Torque	0.01 Ncm
Moment of inertia	ca. 3.8×10^{-6} kgm ²
Vibration resistance (DIN EN 60068-2-6)	100 m/s ² (10 ... 2000 Hz)
Shock resistance (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Operating temperature	-40 °C ... +100 °C
Storage temperature	-40 °C ... +85 °C
Weight	approx. 350 g (ST) / 400 g (MT)
Connection ²	Cable, axial or radial M23 connector (Conin), 17 pole, axial or radial Sub-D connector, 37 pole

TECHNICAL DATA
electrical

Supply voltage	DC 10-30 V On request: DC 5 V
Max. current w/o load	200 mA (ST), 300 mA (MT)
Resolution singleturn	10 - 14 Bit Gray Excess: 360, 720 increments
Resolution multiturn	12 Bit
Output code	Binary, Gray, Gray Excess
Linearity	± ½ LSB
Output current	30 mA per Bit, short-circuit-proof
Control inputs	<u>L</u> atch, <u>D</u> irection, <u>T</u> ristate with ST, Tristate with MT

Absolute

Parallel

TECHNICAL DATA electrical (continued)

Alarm output	NPN-O.C., max. 5 mA
Status LED	Green = ok, red = alarm

Data output level

Supply voltage U_B	DC 5 V - 5 % +10 % ¹	DC 10 - 30 V
Output level High	≥ 3.5 V (30 mA) ≥ 3.9 V (10 mA)	$\geq U_B - 2.2$ V (30 mA) $\geq U_B - 1.8$ V (10 mA)
Output level Low	≤ 1.6 V (30 mA) ≤ 1.2 V (10 mA)	≤ 1.6 V (30 mA) ≤ 1.2 V (10 mA)
Rise time (1.5 m Cable)	≤ 0.1 μ s	≤ 0.2 μ s
Drop time (1.5 m Cable)	≤ 0.05 μ s	≤ 0.1 μ s

¹ on request

Control inputs

Input	Level logical (physical)	Function
$\overline{\text{Direction}}$	1 (+ U_B or open) 0 (0 V)	ascending code values when turning clockwise (cw) descending code values when turning clockwise (cw)
$\overline{\text{Latch}}$	1 (+ U_B or open) 0 (0 V)	encoder data continuously changing at output encoder data stored and constant at output
$\overline{\text{Tristate}}$ (with singleturn)	1 (+ U_B or open) 0 (0 V)	outputs active outputs at high impedance (Tristate mode)
Tristate (with multiturn)	1 (+ U_B) 0 (0 V or open)	outputs at high impedance (Tristate mode) outputs active

Typical actuating delay time 10 μ s with push-pull selection; when selected via O.C., an external pull-down resistor (1 K Ω) is required

Absolute

Parallel

ELECTRICAL CONNECTIONS

Singleturn, cable

Colour (PVC)	9 Bit / 360 incr.	10 Bit / 720 incr.	12 Bit	13 Bit	14 Bit
grey/pink	N.C.	N.C.	N.C.	N.C.	S0 (LSB)
brown/yellow	N.C.	N.C.	N.C.	S0 (LSB)	S1
brown/grey	N.C.	N.C.	S0 (LSB)	S1	S2
red/blue	N.C.	N.C.	S1	S2	S3
violet	N.C.	S0 (LSB)	S2	S3	S4
white/brown	S0 (LSB)	S1	S3	S4	S5
white/green	S1	S2	S4	S5	S6
white/yellow	S2	S3	S5	S6	S7
white/grey	S3	S4	S6	S7	S8
white/pink	S4	S5	S7	S8	S9
white/blue	S5	S6	S8	S9	S10
white/red	S6	S7	S9	S10	S11
white/black	S7	S8	S10	S11	S12
brown/green	S8 (MSB)	S9 (MSB)	S11 (MSB)	S12 (MSB)	S13 (MSB)
yellow	$\overline{\text{Tristate S0...S8}}$	$\overline{\text{Tristate S0...S9}}$	$\overline{\text{Tristate S0...S11}}$	$\overline{\text{Tristate S0...S12}}$	$\overline{\text{Tristate S0...S13}}$
pink	$\overline{\text{Latch}}$	$\overline{\text{Latch}}$	$\overline{\text{Latch}}$	$\overline{\text{Latch}}$	$\overline{\text{Latch}}$
green	$\overline{\text{Direction}}$	$\overline{\text{Direction}}$	$\overline{\text{Direction}}$	$\overline{\text{Direction}}$	$\overline{\text{Direction}}$
black	0 V	0 V	0 V	0 V	0 V
red	DC 5 V/ 10-30 V	DC 5 V/ 10-30 V	DC 5 V/ 10-30 V	DC 5 V/ 10-30 V	DC 5 V/ 10-30 V
brown	$\overline{\text{Alarm}}$	$\overline{\text{Alarm}}$	$\overline{\text{Alarm}}$	$\overline{\text{Alarm}}$	$\overline{\text{Alarm}}$

ELECTRICAL CONNECTIONS

Singleturn, M23 connector (Conin), 17 pole

Pin	9 Bit / 360 incr.	10 Bit / 720 incr.	12 Bit	13 Bit	14 Bit
1	S0 (LSB)	S0 (LSB)	S0 (LSB)	S12 (MSB)	S13 (MSB)
2	S1	S1	S1	S11	S12
3	S2	S2	S2	S10	S11
4	S3	S3	S3	S9	S10
5	S4	S4	S4	S8	S9
6	S5	S5	S5	S7	S8
7	S6	S6	S6	S6	S7
8	S7	S7	S7	S5	S6
9	S8 (MSB)	S8	S8	S4	S5
10	N.C.	S9 (MSB)	S9	S3	S4
11	N.C.	N.C.	S10	S2	S3
12	$\overline{\text{Tristate S0...S8}}$	$\overline{\text{Tristate S0...S9}}$	S11 (MSB)	S1	S2
13	$\overline{\text{Latch}}$	$\overline{\text{Latch}}$	$\overline{\text{Latch}}$	S0 (LSB)	S1
14	$\overline{\text{Direction}}$	$\overline{\text{Direction}}$	$\overline{\text{Direction}}$	$\overline{\text{Direction}}$	S0 (LSB)
15	0 V	0 V	0 V	0 V	0 V
16	DC 5 V/ 10-30 V	DC 5 V/ 10-30 V	DC 5 V/ 10-30 V	DC 5 V/ 10-30 V	DC 5 V/ 10-30 V
17	$\overline{\text{Alarm}}$	$\overline{\text{Alarm}}$	$\overline{\text{Alarm}}$	$\overline{\text{Latch/Alarm}}$	$\overline{\text{Latch/Alarm}}$

ELECTRICAL CONNECTIONS

Multiturn, cable

Cable (TPE)	10 cm cable with Sub-D connector, 37 pole		Cable (TPE)	10 cm cable with Sub-D connector, 37 pole	
Colour	Pin	Connection	Colour	Pin	Connection
brown	2	S0	white/blue	14	M4 ¹
green	21	S1	brown/blue	33	M5 ¹
yellow	3	S2	white/red	15	M6 ¹
grey	22	S3	brown/red	34	M7 ¹
pink	4	S4	white/black	16	M8 ²
violet	23	S5	brown/black	35	M9 ²
grey/pink	5	S6	grey/green	17	M10 ²
red/blue	24	S7	yellow/grey	36	M11 ²
white/green	6	S8	pink/green	18	Alarm
brown/green	25	S9	yellow/pink	10	Direction
white/yellow	7	S10	green/blue	30	Latch
yellow/brown	26	S11	yellow/blue	12	Tristate
white/grey	8	M0	red (0.5mm ²)	13	DC 10-30 V
grey/brown	27	M1	white (0.5mm ²)	31	DC 10-30 V
white/pink	9	M2	blue (0.5mm ²)	1	0 V
pink/brown	28	M3	black (0.5mm ²)	20	0 V

¹ N. C. with resolution 16 Bit (4 Bit MT)² N. C. with resolution 16 Bit or 20 Bit (4 or 8 Bit MT)

DIMENSIONED DRAWINGS

see chapter "Dimensioned drawings AC 58", starting page 185

ORDERING INFORMATION

Type	Resolution ^{1,2}	Supply voltage	Flange, Protection, Shaft ^{3,7}	Interface	Connection ^{4,5,6}
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
AC58	0010 10 Bit ST 0012 12 Bit ST 0013 13 Bit ST 0014 14 Bit ST 0360 360 increments ST 0720 720 increments ST 0412 4 Bit MT + 12 Bit ST 0812 8 Bit MT + 12 Bit ST 1212 12 Bit MT + 12 Bit ST	E DC 10 - 30 V	S.41 Synchro, IP64, 6 mm S.71 Synchro, IP67, 6 mm K.42 Clamping, IP64, 10 mm K.46 Clamping, IP64, 9.52 mm K.72 Clamping, IP67, 10 mm K.76 Clamping, IP67, 9.52 mm F.46 Spring tether, IP64, hubs-haft 9.52 mm, mounting with clamping ring front F.42 Spring tether, IP64, hubs-haft 10 mm, mounting with clamping ring front F.47 Spring tether, IP64, hubs-haft 12 mm, mounting with clamping ring front Q.46 Square, IP64, 9.52 mm Q.42 Square, IP64, 10 mm Q.76 Square, IP67, 9.52 mm Q.72 Square, IP67, 10 mm	PB Parallel binary PG Parallel Gray	A Cable, axial B Cable, radial U M23 connector (Conin), 17 pole, axial, ccw V M23 connector (Conin), 17 pole, radial, ccw W M23 connector (Conin), 17 pole, axial, cw Y M23 connector (Conin), 17 pole, radial, cw A-A1-F 0,1 m cable with Sub-D connector, 37 pole, axial B-B1-F 0,1 m cable with Sub-D connector, 37 pole, radial

¹ Resolution 360 increments ST with Offset 76 (value range 76...435)

² Resolution 720 increments ST with Offset 152 (value range 152...871)

³ Protection class IP67 not available in combination with preset key and LED display

⁴ Connection code "A", "B" (cable): ST and MT

⁵ Connection code "U", "V", "W", "Y" (M23 connector): only ST

⁶ Connection code "A-A1-F" and "B-B1-F" (Sub-D connector): only MT

⁷ IP67 on cover with connector only if IP67 mating connector mounted properly.

Preferably available versions are printed in bold type.

ORDERING INFORMATION

Selection of cable length

Versions with cable outlet (connection A, B, E or F) are available with various lengths of cable. To order your desired cable length, please add the respective code to the end of your ordering code. Further cable lengths on request.

Code	Cable length
without code	1.5 m
-D0	3 m
-F0	5 m
-K0	10 m
-P0	15 m
-U0	20 m
-V0	25 m

ACCESSORIES

see chapter "Accessories", starting page 322