



AHE 7 Hollow-Shaft
AFE 7 Flange Mount
Incremental Encoder

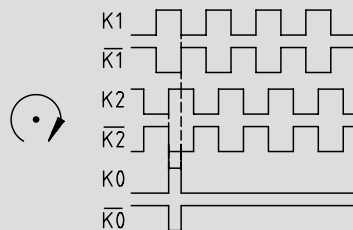
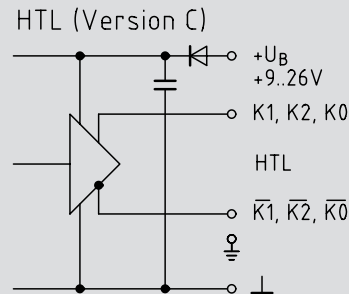
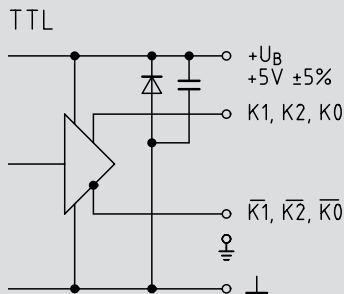
AHE 7 • AFE 7

Compact Incremental Encoders (Digital-Tachos) in die-cast aluminium housing with hollow-shaft or flange mount for monitoring speed or position in drive systems, especially for AC motors.

- **HÜBNER / SIEI America Incremental Encoders** (Digital-Tachos) have over the years become standard in many areas of industry due to their rugged construction adapted to the application (**HeavyDuty® Technology**):
- Sensing by **opto-ASIC**, compensated for **temperature** and **aging**
- **EMC-protected** conforming to CE regulations
- High **vibration** and **shock resistance in accordance with** IEC 60068-2-6 and IEC 60068-2-27
- **Warranty 2 years** within the conditions of the German Electrical Manufacturer's Association (ZVEI), **ISO 9001** certified

Special features:

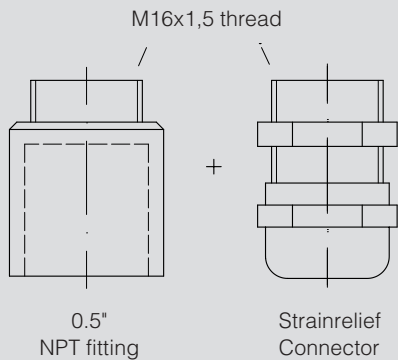
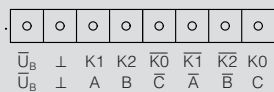
- Compact **aluminium housing**
- Rugged **incremental metal disk**
- **Servo flange** and shaft 0.375": **AFE 7**
- **Hollow shaft max. 0.55"** (0,5" stock): **AHE 7**
- Internal **terminal strip**
- **Logic level TTL** (RS-422) or **logic level HTL** (version C with line driver IC)
- Protection **IP 56**
- Award for good **Industrial Design iF 1995**, registered design no. M 93 05.067.4 • M 94 04.528.3



AHE 7 / AFE 7 DN ... TI	strain relief connector 0.5" NPT fitting	two inverted TTL signals, displaced by 90°, with marker pulse
AHE 7 / AFE 7 DN ... CI	strain relief connector 0.5" NPT fitting	two inverted HTL signals, displaced by 90°, with marker pulse

Pulses per revolution	Z	1 024 stock 60, 64, 100, 128, 176, 180, 192, 200, 256, 360, 400, 500, 512, 600, 720, 1 000, 2 048, 2 500, 5 000 others, please consult agent
Switching frequency	f _{max}	120 kHz
Speed max.	rpm	$\frac{7.2 \cdot 10^6}{z} \leq 10\,000$
Logic level		HTL (Version C) TTL (RS-422)
Supply voltage	U _B	+9 ... +26 V +5 V ± 5 %
Current consumption at no-load		approx. 100 mA approx. 100 mA
Load current per channel max.	I _{source} = I _{sink}	60 mA average 150 mA peak 25 mA average 75 mA peak
Output amplitude		U _{Low} ≤ 3 V; U _{High} ≥ U _B - 3.5 V U _{Low} ≤ 0.5 V; U _{High} ≥ 2.5 V
Mark space ratio		1 : 1 ± 20 %
Square wave displacement		90° ± 20°
Rise time		≥ 10 V/μs
Moment of inertia		approx. 55 gcm ²
Driving torque at operating temperature		approx. 1 Ncm
Load on shaft	max.	AHE 7 axial 40 N radial 30 N AFE 7 axial 50 N radial 60 N
Vibration proof		≤ 10 g ≈ 100 m/s ² (10 Hz ... 2 kHz) IEC 60068-2-6
Shock proof		≤ 100 g ≈ 1 000 m/s ² (6 ms) IEC 60068-2-27
Temperature range (housing surface)	T	-30 °C ... +70 °C
Protection		IP 56 IEC 60529
Weight		AHE 7 approx. 0.33 lbs. (240 g) AFE 7 approx. 0.44 lbs. (380 g)

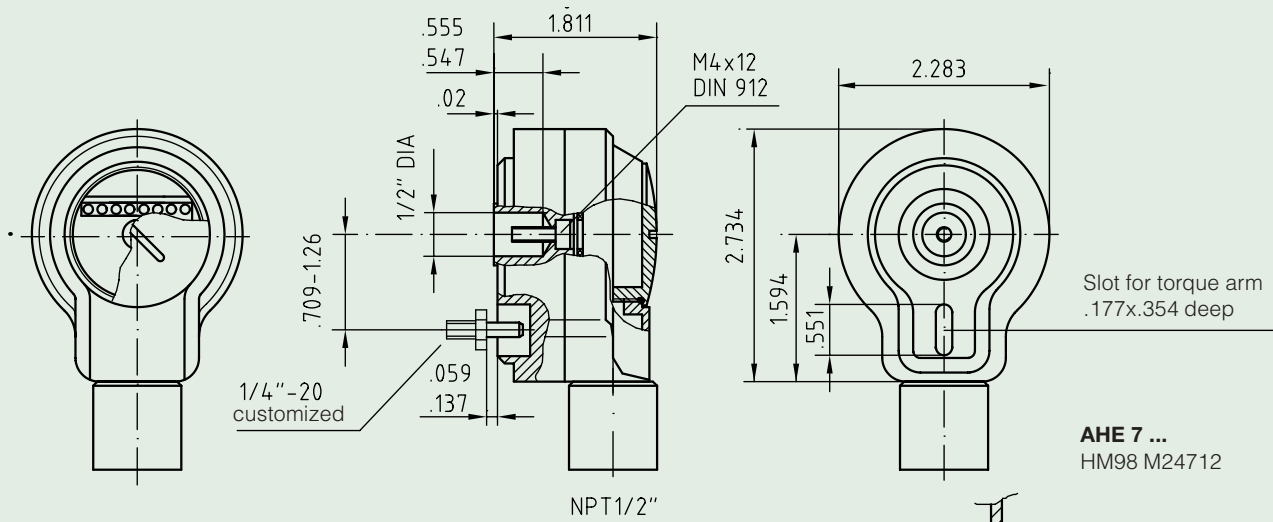
All electrical data at
T ≤ T_{max}



Accessories:

- Torque arm
- Cable and plug HEK 8
- Spring disk coupling
- Frequency-analogue converter HEAG 121 P
- Opto coupler / logic converters HEAG 151 → HEAG 154
- Fiber optic links HEAG 171 → HEAG 176

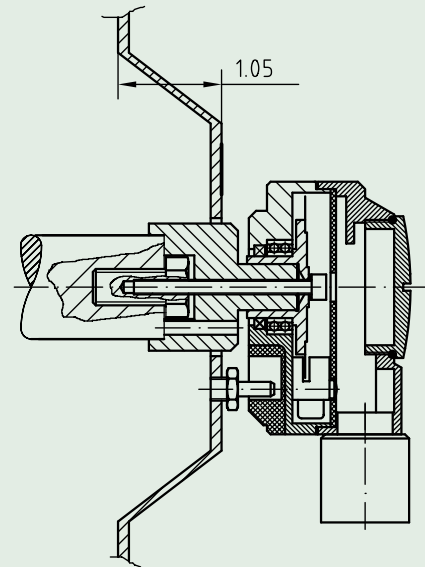
AHE 7 • AFE 7



AHE 7 ...
HM98 M24712

The following mounting kits are available for the AHE 7 hollow shaft encoders:

- # AHE 7-320-MK GE DC Motors, Frames 180 - 320 (shown)
GE Type KAF AC Motors, Frames 180 - 320
Baldor and USEM DC Motors, Frames 180 - 500
- # AHE 7-360-MK GE DC Motors, Frames 360
- # AHE 7-400-MK GE DC Motors, Frames 400
GE Type KAF AC Motors, Frames 360 - 500
- # AHE 7-500-MK GE DC Motors, Frames 500
GE Type KAF AC Motors, Frames 580 - 8511
- # AHE 7-MAR-MK Marathon Black Max AC Motors, Frames 56 - 280, TENV only
Marathon Blue Max AC Motors, Frames 140 - 250, TENV only



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