## DESIGN SPECIFICATION

# DHE SENSOR

# O 030 350 000 131



DHE (Differential Hall Effect) sensors give an output when subjected to a changing magnetic field. The field is set up by a magnet inside the sensor body and changes when ferromagnetic teeth are passed beneath the sensor (no magnets are required in the target). To improve noise resistance, the sensor has two Hall effect elements and only responds to changes in magnetic field strength corresponding to tooth passing frequencies above 15Hz. As each tooth passes the sensor the digital state of the output changes.

#### Electrical

- Supply voltage 9 to 24V unregulated
- Supply current 5 to 15mA
- Open collector output
- Output current 35mA maximum
- Frequency response 15Hz to 20kHz
- Reverse polarity protection
- Output polarity depends on the rotational direction of target wheel

#### Cable and Connection Definition

- 22 AWG un-screened cable
- Cable length 1000mm
- Connection

Red wire Supply
Green wire Signal
White wire Ground

#### Mechanical

- See attached drawing No. D100 350 000 088
- Air gap 1.5mm maximum
- Body diameter 9mm
- Weight less than 30g (including cable)
- Polyester cable boss for strain relief to the sensor body

### Environmental

- Vibration 50 to 2500Hz @ 40g 8hrs per axis
- Resistant to standard motorsport fluids
- Maximum humidity 100%
- Operating temperature -10 to 175°C
- Viton jacketed cable
- Aluminium alloy body, hard anodised and dyed black

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DESIGN

DIMS/LIMITS

MAT/FINISH

COSMETIC

DXF FILE

SEE TWPD0018

DCB DCB

DCB

N/A

N/A

φ φ 0.25 M /

SLOT DENOTES DIRECTION OF TARGET WHEEL

ORIENTATION OF TARGET WHEEL

2

3

8.95

<del>0</del>

1:1

4

15 ±0.05

R Q.5 MAY

0.4 x 45°

5

16

0.4 x 45°

12

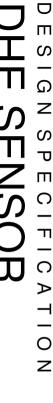
6

LENGTH AS SPECIFICATION ± 10

11.5

Ф

Ф



030 350 000

С

D

Е

7

8

ISOMETRIC VIEW

MODIFICATIONS / MOD NOTE NO.:	DATE:		© 2001 ALL RIGHTS RESERVED BY TAG ELECTRONIC SYSTEMS	ALL DIMENSIONS IN mm UNLESS OTHERWISE STATED	ORDER NO.:		NO DEVIATION FROM THIS DRAWING WILL BE ACCEPTED WITHOUT THE WRITTEN CONSENT OF TAG ELECTRONICS SYSTEMS LTD	
18mm LENGTH NOW 16mm, 14mm NOW 12mm (GR A/5)	2.7.01	EMH	LIMITS UNLESS OTHERWISE STATED:	MAX. SURFACE FINISHES:	scale: 2:1	PAPERSIZE: A3	3rd ANGLE PROJECTION	
			±0.2		DRAWN: CMH	APPROVED: DCB	TAG:	
					DATE: 26.6.01	DATE: 26.6.01	DATE:	
			MATERIAL SPECIFICATION:	SURPAGE PHOTECTION:	DRAWNGNO: 0100 350 000 088-01 SHEET: 1 OF: 1			1 ELECTRONIC systems
					TITLE: DHE SENSOR - $\phi$ 9 x 15mm			
	MODRICATIONS/MCD-MOTE NO.:  18mm LENGTH NOW 16mm, 14mm NOW 12mm (GR A/5)			18mm LENGTH NOW 16mm, 14mm NOW 12mm (GR A/5) 2.7.0.1 CMH LMTS UNLESS OTHERWISE STATED:	18mm LENGTH NOW 16mm, 14mm NOW 12mm (GR A/5)  2.7.01 EMH  ±0.2	18mm LENGTH NOW 16mm, 14mm NOW 12mm (GR A/5) 2.7.01 CMH   ±0.2   MX SURFACE PRISHES: SCALE 2:1  GRAWN [MH   DATE: 26.6.01]  DRAWNSINS: □100 350 0.00	18mm LENGTH NOW 16mm, 14mm NOW 12mm (GR A/5)   2.7.01   CMH	18mm LENGTH NOW 16mm, 14mm NOW 12mm (GR A/5)   2.7.01   CMH



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