

## 1 Introduction

The sensor provides a current output proportional to the displacement of the magnet. Assembling a magnet on the moving part and keeping fixed the sensor it is possible to measure with good resolution ( $<2/10$  mm) the linear displacement of the movement part.

The current output 4-20mA proportional to the displacement ensures good noise immunity.

The sensor is also equipped with an error output to signals the connection failure of the measurement resistance or a connection to a wrong resistance value.

The maximum measurable displacement is proportional to the size and type of magnet (ferrite, neodymium, alnico ..) as well as to the distance between magnet and sensor.

Each sensor can be calibrated to ensure maximum repeatability of the measure in function of the displacement and the temperature of the system. Stem offers a support service for system design and for sensor calibration in production according to the customer specifications.

## 2 Technical Data

Technical Data	
Power supply	10-30VDC
Maximum current consumption without load (mA) ( $V_{supply}=30V$ )	28mA
fault open collector output (active if load resistance not present or load resistance too high)	Open collector PNP Imax 100mA Vmax 30V
Linear output current	Min 4mA $\pm$ 0.5mA Max 20mA $\pm$ 0.5mA If power supply =10V output resistance $<400$ ohm If power supply=24V output resistance $<800$ ohm
Response time from 10%FSO to 90%FSO*	1ms
Linear Displacement Resolution	0.2mm
Linear output resolution	$<0.5$ % FSO
Mechanical dimension	65Hx20Wx9T (mm)
Operating temperature range	$-30^{\circ}C + 105^{\circ}C$
Storage temperature range	$-30^{\circ}C + 105^{\circ}C$
Protection class	IP67
EMC Compliance	EN 61326-1:2006, EN 61326-2-3:2013 EN12015-2014, EN12016-2013

\*FSO = full scale output

## 3 Connections

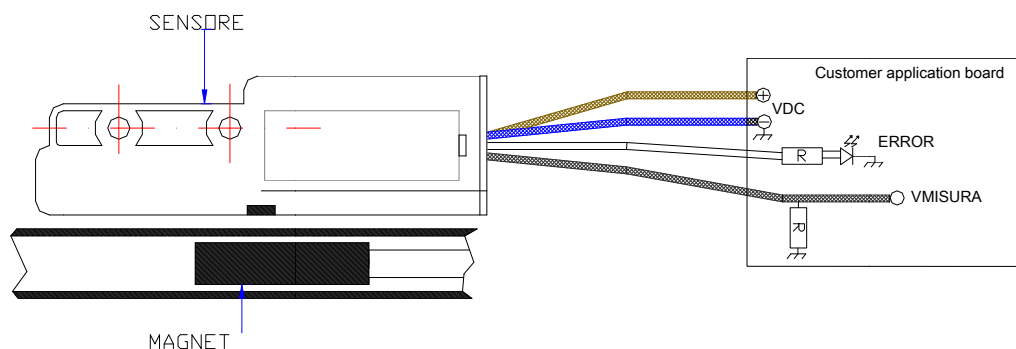
CONNECTIONS				
NAME	TYPE	FUNCTION	Voltage Range DC [V]	Max I [A]
Blue	Power supply	Negative Power supply (0V)		
Brown	Power supply	Positive Power supply ( $V_{sup}$ )	10÷30	0.028
Black	Output	Output linear current	( $V_{sup} - 1V$ )	0.02
White	Output	Fault output	0- $V_{sup}$	0.01

## 4 Ordering code

**E53HLC QT P xxx**

Cables length cm

## 5 Wiring diagram



## 6 Output curves

The output curves are strictly dependent on the type of magnet used, its size and the distance between sensor and magnet.

