

# CHM9

## BISS ABSOLUTE SINGLE TURN ENCODERS

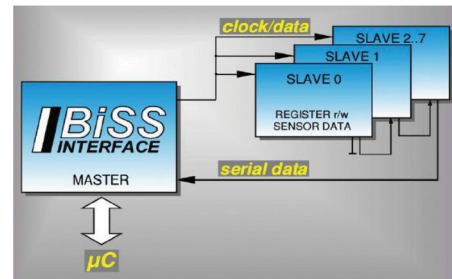
### Introduction

Especially designed for heavy-duty (steel, paper, wood – mills, cranes ...) Compact and robust conception. Excellent resistance to shocks/vibrations and to extreme axial/radial loads. Also available in SSI or parallel output and fieldbus: CanOpen, DeviceNet, Profibus.

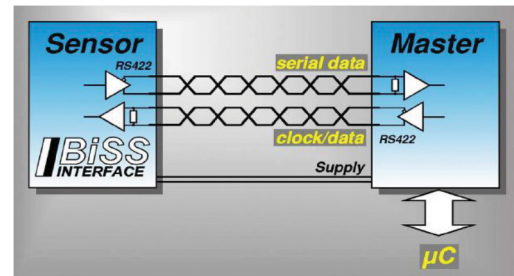


### Features

- Bi-directional
- Synchronous-serial communication
- Short cycle times
- Up to 8 slaves with one master
- Multicycle data transmission



The BiSS Interface master–slave concept supports up to 8 data sources in one or more devices.



BiSS Interface wiring with unidirectional lines (one sensor with several slave levels, for example).

CHM9 BiSS encoder is slave 0. Consult us in the case of other slave number



## SPECIFICATIONS

<b>Material</b>	<b>Cover:</b> Zinc Alloy <b>Body:</b> Aluminum <b>Shaft:</b> Stainless Steel
<b>Bearings</b>	6001 series
<b>Maximal Loads</b>	<b>Axial:</b> 100 N <b>Radial:</b> 200 N
<b>Shaft Inertia</b>	$\leq 15 \cdot 10^{-6} \text{ kg.m}^2$
<b>Torque</b>	$\leq 10 \cdot 10^{-3} \text{ N.m}$
<b>Permissible Max. Speed</b>	9,000 min <sup>-1</sup>
<b>Continuous Max. Speed</b>	6,000 min <sup>-1</sup>
<b>Shaft Seal</b>	Viton double lips
<b>Shocks (EN60068-2-27)</b>	$\leq 500 \text{ m.s}^{-2}$ (during 6 ms)
<b>Vibrations (EN60068-2-6)</b>	$\leq 200 \text{ m.s}^{-2}$ (10 ... 1,000 Hz)
<b>EMC</b>	EN 61000-6-4, EN 61000-6-2
<b>Isolation</b>	1,000 Veff
<b>Encoder Weight (Approx.)</b>	1,100kg zinc alloy cover, alu body 2,400kg zinc alloy cover, stainless steel body 2,600kg stainless steel cover and body
<b>Operating Temperature</b>	- 20 ... + 90°C (encoder T°)
<b>Storage Temperature</b>	- 40 ... + 100°C
<b>Protection (EN 60529)</b>	IP 65
<b>Theoretical mechanical lifetime 10<sup>9</sup> turns (<math>F_{axial} / F_{radial}</math>)</b>	
<b>20 N / 30 N</b>	360
<b>50 N / 100 N</b>	18
<b>100 N / 200 N</b>	2,2

## Electrical Data

<b>Power Supply Vcc</b>	5 to 30Vdc (polarity protected)
<b>Consumption Without Load</b>	Max 100mA
<b>Introduction</b>	< 1 s
<b>Inputs</b>	DIRECTION and RESET
<b>Outputs</b>	Level high $\geq 2,5\text{V}$ (for I=20mA) Load high $\leq -20\text{mA}$ BiSS: RS-422 Level low $\leq 0,5\text{Vdc}$ (for I=20mA) Load low $\leq 20\text{mA}$

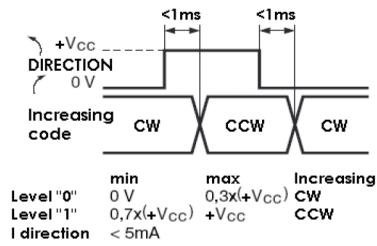




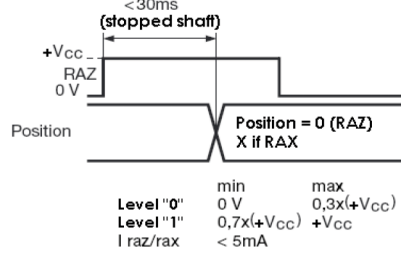
# BISS STANDARD CONNECTION

Type	Vcc	0V	Clk+	Data+	RAZ	Data-	Clk-	Direction
S6	1	2	3	4	5	6	7	9
S5	BN/GN Brown/Green	WH/GN White/Green	GN Green	GY Grey	BU Blue	PK Pink	BN Brown	WH White
S8	8	1	3	2	6	10	11	5

DIRECTION input



RAZ / RAX input



Note : Do not connect other pinouts, connect DIRECTION and RAZ to a potential (RAZ at 0V if not used)



## ORDERING OPTIONS

Example : CHM9\_12//PCBG//13//S5 R050

Contact the factory for special versions, ex: special flanges, electronics, connections...

<b>Family</b>	CHM9	-	12	//	P	CB	G	//	13	//	S5	R050
<b>CHM9</b>												
<b>Shaft Ø</b>												
<b>12:</b> 12mm												
<b>Supply</b>												
<b>P:</b> 5 to 30Vdc												
<b>Output Stage</b>												
<b>CB:</b> BiSS Electronic												
<b>Code</b>												
<b>B:</b> Binary												
<b>G:</b> Gray												
<b>Resolution</b>												
Max: 16 bits, power of 2												
<b>13:</b> 13 bits												
<b>16:</b> 16 bits												
<b>Connection</b>												
<b>S6:</b> M23 12 pins CW												
<b>S8:</b> M23 12 pins CCW												
<b>S5:</b> cable gland output												
<b>Orientation</b>												
<b>R:</b> Radial												
Example: <b>R020:</b> radial cable of 2m												

### Monitoring function available in option:

- of the code coherence
- of the LED internal regulated current loop
- of temperature range with 2 limits

### Input / output available in option:

- ERROR output for monitoring functions
- Sine & Cosine outputs without index, 2048ppr (option: 4096 ppr)
- A & B incremental outputs without index, 2048ppr (option: 4096 ppr)



## AGENCY APPROVALS & CERTIFICATIONS



Made in France

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