






## Vert-X 51 - 24V / CANopen / GL - certified

### Applications

- Sensor for 360° marine propulsions
- Direction indicator device

### Features

- GL approved  
- CiA approved  CiA200804-301V402/20-0087
- Contactless measuring method (magnetic hall)
- Long life
- High accuracy of measurement
- Applications under adverse ambient conditions possible (humidity, dampness, oil dust, vibrations etc.)

Sensor principle		MH-C2
<b>Electrical data</b>		
Measuring range	°	0 ... 360
Indep. linearity	% of meas. range	±0.25
Max. hysteresis	°	0.36
Resolution	bit	16
Max. repeatability	°	±0.1
Sample rate	kHz	0.5
Max. temperature coefficient of the output signal	ppm/°K	50
MTTFd / MTBF	years	135 / 135
Power supply voltage	VDC	18 ... 31.2
Current consumption without bus load (typ.)	mA	30
Reverse polarity protection		yes
Electrical connection (s = shielded)		Cable 10pole, s
Cross section of single wires	mm <sup>2</sup>	0.22 (AWG24)
Bus interface		ISO/DIS 11898-2
CANopen communication according to CiA		Standard DS-301 Rev. 4.02
Device profile		DSP-406, Rev. 3.1, Encoder class C2
Node-ID range		1 ... 127
Node-ID (adjustable over 4 external lines)		1 ... 16
Node-ID (without use of external lines)		programmable (1 ... 127)
Software version		1.2.Z
Standard bitrate	kBit/s	125
CAN terminating resistor (settable by external line)	Ohm	120
<b>Mechanical data</b>		
Mechanical range	°	360 (continuous)
Protection class		IP65
Max. starting torque at specified protection class	Ncm	4
Max. rotating speed	rpm	6000
Min. life	movements	200 Mio.
Max. permitted axial shaft load	N	45
Max. permitted radial shaft load	N	45
<b>Standards</b>		
EMC according to German Lloyd (GL)		EMC1 <sup>(1)</sup>
CANopen conformance certified by CiA		Certificate-#: CiA2200804-301V402/20-0087 <sup>(2)</sup>
Environmental category according to German Lloyd (GL)		D

<sup>(1)</sup> Type approved by German Lloyd: Guidelines for the Performance of Type Approvals, Part 2, Test Requirements for Electrical/Electronic Equipment and Systems, Edition 2003

<sup>(2)</sup> CANopen according DS-301 V4.02, DS-406 V3.1 Encoderclass C2

Errors and omissions excepted. Subject to change without notice. / State: 10.05.10

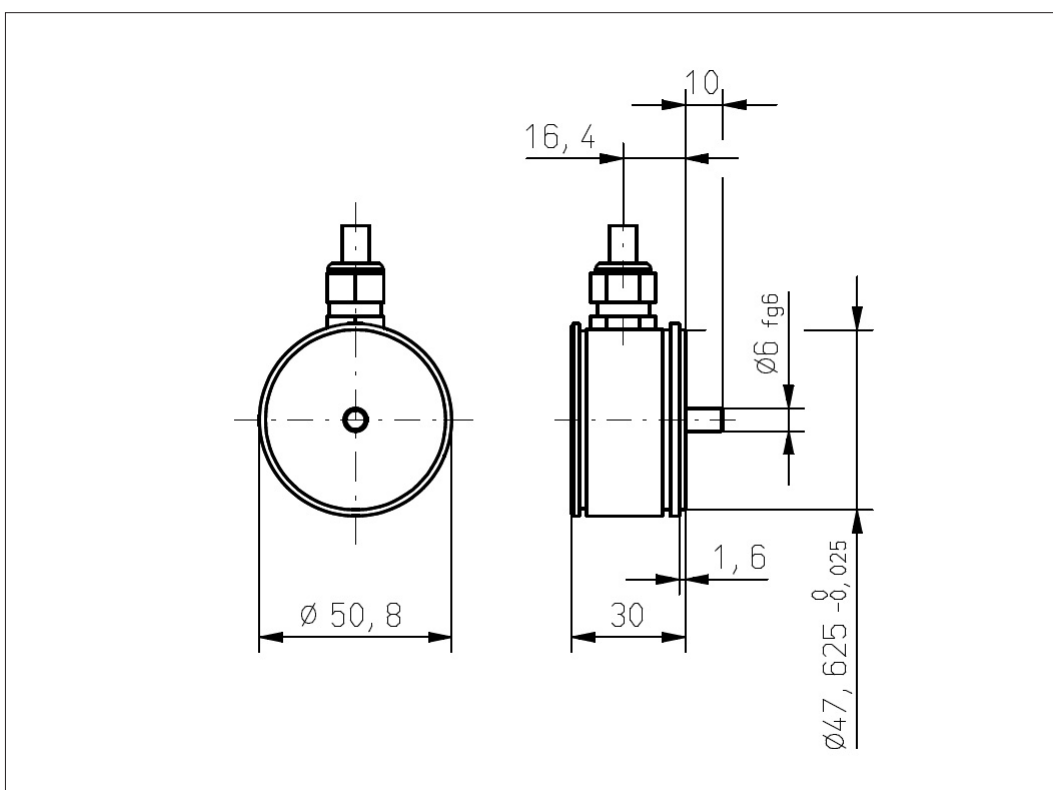
Contelec AG  
 Portstrasse 38  
 CH-2503 Biel/Bienne  
 Phone +41 (0)32 3665600  
 Telefax +41 (0)32 3665604  
 sales@contelec.ch

**CONTELEC**  
 A company of the Siedle-Group



**Vert-X 51 - 24V / CANopen /  
GL - certified  
Ordering code**

Vert-X	5	1	3	1	8	3	6	1	3	1	1	0	2
	<b>Power supply voltage</b> 1 Standard: 24VDC				<b>Output signal</b> 3 Standard: CANopen Encoder Profile 406 (C2)				<b>Output characteristic</b> 1 Standard: Positive gradient CW				
<b>Electrical angle</b> 36 Standard: Electrical angle 360°				<b>Electrical connection</b> 1 Standard: Round cable 10pole				<b>Length of cable</b> 02 Standard: 1.0m 06 Optional: 3.0m 10 Optional: 5.0m 99 Optional: Special length					
<b>Sensor principle</b> 8 MH-C2				<b>Mechanical version</b> 5131 Standard: Servo mount size 20 ; 6 mm shaft ; IP65									



**Drawing**

**Accessoires (incl.)**

- 3x Fixation clamps
- 3x Slotted cylinder head screw M3x8

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**Vert-X 51 - 24V / CANopen /  
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Certificate**

## Type Approval Certificate



This is to certify that the undemoted product(s) has/have been tested in accordance with the relevant requirements of the GL Type Approval System.

Certificate No.	58 715 - 08 HH
Company	Contelec AG Portstr. 38 2503 Biel/Bienne, SWITZERLAND
Product Description	Absolute Rotary Position Transducer with CANopen Interface
Type	Vert-X 51 CAN
Environmental Category	D, EMC1
Technical Data / Range of Application	Power supply: 18...31.2 VDC Power consumption: 30 mA (without bus activity) Angular Range: 0...360° Internal Resolution: 16 Bit Absolute Linearity: ±0.25% Reproducibility: ±0.1° Hysteresis: 0.36° Temperature Coefficient: max 50 ppm/K Degree of protection: IP65 CANopen Protocol: DS-301 V4.02, DS-406 V3.1, Encoderclass C2 Node ID's: 1...16 (set by 4 external lines) or 1...127 (set by software) Default Btrate: 125 kBit/s Software Version: 1.2.Z
Test Standard	Guidelines for the Performance of Type Approvals Part 2, Edition 2003
Documents	Test report : U080851E1/2nd, E080851E, Messungen Vert-X 51 V1. Specification: Vert-X 51 V6. Drawing: MB 18344 Rev. A. CANopen Certificate: CiA200804-301V402/20-0087
Remarks	None
Valid until	2013-08-24
Page	1 of 1
File No.	I.D.15
	Hamburg, 2008-08-25

Type Approval Symbol



**Germanischer Lloyd**

Jürgen Wittburg

Heinz Scheffler

This certificate is issued on the basis of "Guidelines for the Performance of Type Approvals Part 1, Procedure".

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GL - certified  
Certificate



Certificate # **CiA201003-301V402/20-0116**

Vendor ID **00 00 00 80**

Manufacturer **Contelec AG**

Device **Vert-X MH-C2 CAN**

Product code: 0001 8774h  
Object 1018h/02h

Revision number: 0000 00A1h  
Object 1018h/03h

Hardware version: HV30781B  
Object 1009h

Software version: SV\_1.2.3  
Object 100Ah

EDS **MH-C2\_CAN.eds**

File version: 1

File revision: 0

EDS version: 4.02

Nuremberg, 26.03.2010

CAN in Automation GmbH

Kontumazgarten 3

90429 Nuremberg

Germany

phone: +49-911-928819-0

fax: +49-911-928819-79

*Technical Manager*  
Fax: +49-911-928819-79

CAN in Automation GmbH  
Kontumazgarten 3  
90429 Nuremberg  
Germany  
phone: +49-911-928819-0  
fax: +49-911-928819-79



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