Functional Safety Encoders

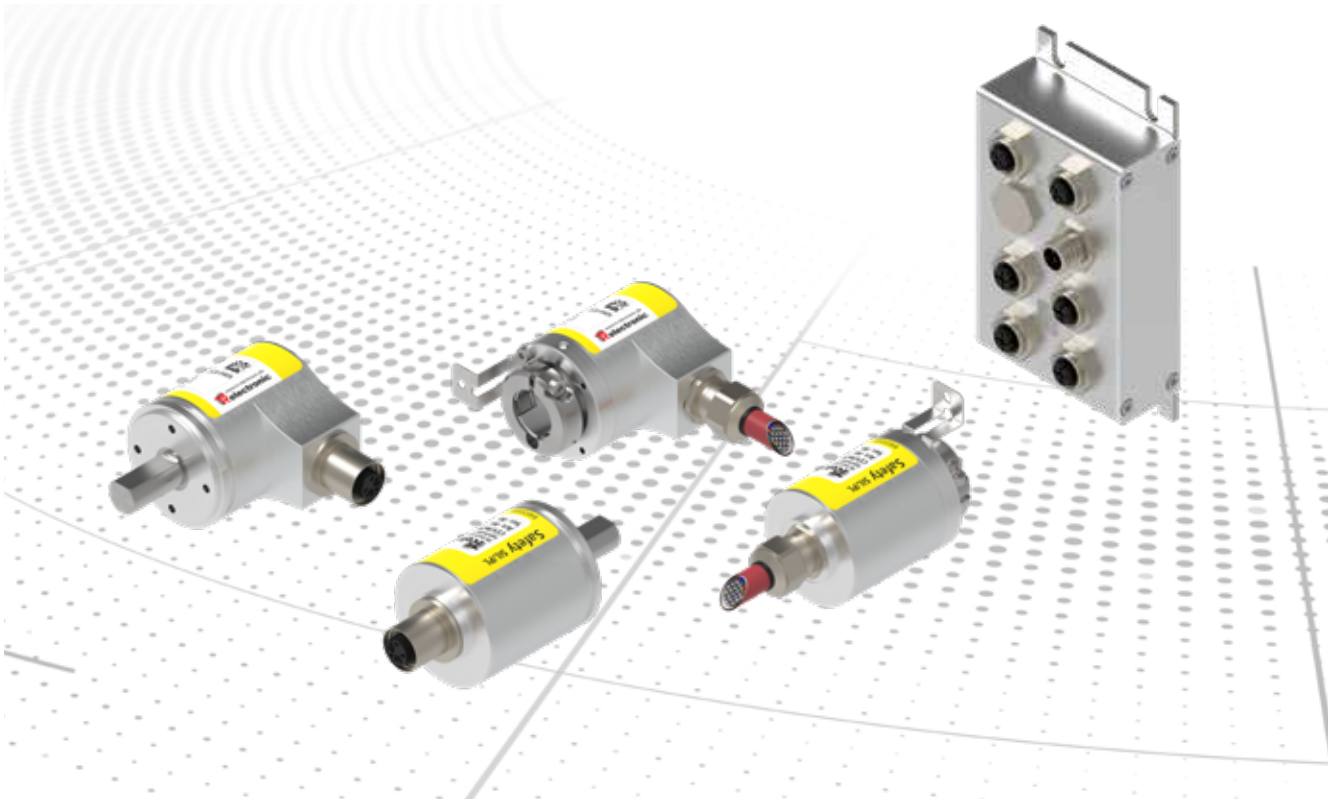
Size 36 mm

CD_362+FS



www.tr-electronic.com

Rotary Encoders, 36mm, Functional Safety CD_362+FS



Just 36 mm and fully safe

The CD_362+FS from TR Electronic is currently the smallest safe absolute encoder on the market that meets the high requirements of SIL3 or PLe with Category 3. With a diameter of 36 mm, TR Electronic delivers a redundant encoder system that includes two multiturn gearboxes and two sets of sensors. Even in this small encoder, TR's well-known safe bus protocols can be implemented.

Safe bus protocols without overhead

The safe encoders of the 362 series implement the safe bus protocol in compliance with standards and are certified for CANopen Safety and IO-Link Safety.The safe bus protocols PROFIsafe, CIP Safety™, openSAFETY, and FSoE are generated securely directly within the encoder. They are then transmitted via an RS-485-based serial interface. Here, the "black channel" principle is adhered to: : Reliable error detection is guaranteed regardless of the transmission channel. For conversion into Ethernet, TR provides the CIB2X+FS Box

_ Diameter 36 mm, typical overall Length 42 mm
_ Blind Shaft 6, 8, 10, 12, 15 mm
_ Solid Shaft 6, 8, 10 mm
_ Interfaces: CANopen Safety, IO Link Safety, SSI+SSI SSI+Inkremental
via M12 connectors or cable glands
_ Secure interface protocol, standardized and tested via a serial connection: PROFIsafe, CIP Safety™, OpenSAFETY, FSoE
directly via RS485 or converted via CIB2X+FS

Safety-oriented design

_ Two-channel detection
_ Multiturn detection via two gearboxes and separate detections
_ Internal hardware diagnostics and consolidation into a secure transmission protocol

SIL3, PLe / SIL2, PLd

Product	CMV362*	CMS362
		
Shaft type	Solid Shaft	Blind Shaft
Detection	Magnetic, redundant	Magnetic, redundant
Supply voltage	10…30 V dc	10…30 V dc
max. Steps/Turn*	8.192	8.192
max. Number of Turns	4.096	4.096
Reproducibility	± 0,1°	± 0,1°
Available Shaft Diameters	6, 8, 10	8, 10, 12, 14, 15
Orientation of connector*	radial, axial	radial, axial
Working Temperature	-40...+85°C	-40...+85°C
Protecion Class	IP65	IP65
SIL/PL	SIL2 PLd or SIL3 PLe	SIL2 PLd or SIL3 PLe
Interfaces (directly)*	CANopen safety easy to use IO-Link safety SSI SSI SSI+INC	CANopen safety easy to use IO-Link safety SSI SSI SSI+INC
Interfaces (via CIB2X+FS)	PROFIBUS PROFINET PROFIsafe Safety over EtherCAT EtherNet/IP CIP Safety ETHERNET POWERLINK open SAFETY	PROFIBUS PROFINET PROFIsafe Safety over EtherCAT EtherNet/IP CIP Safety ETHERNET POWERLINK open SAFETY
Weblink	https://www.tr-electronic.com/s/S027213	https://www.tr-electronic.com/s/S027214
QR-Code		

*Please ask about availability of specific combinations

Can't find the right variant? Please contact us (info@tr-electronic.de)

CD_362+FS

Key Way

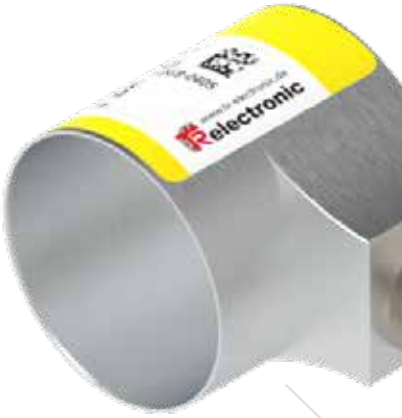


D-Cut



ZB 33
D 36



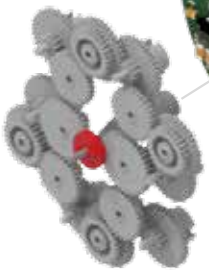


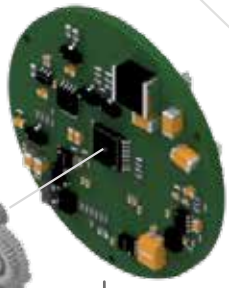
CDV
IP 65



_ 6
_ 8
_ 10







CDS
IP 65



_ 6
_ 8
_ 10
_ 12
_ 15





MM_
Mag. / Mag.

CD_ 362S
Singleturn
≤ 13 bit
1 ↺

CD_ 362M
Multiturn
≤ 13 bit
4096 ↺





radial axial

CANopen safety easy to use



IO-Link safety



SSI SSI
SSI+INC



PROFIsafe CIP Safety Safety over EtherCAT open SAFETY

via RS485



CIB2X+FS



PROFIBUS PROFINET PROFIsafe ETHERNET POWERLINK open SAFETY

EtherNet/IP CIP Safety Safety over EtherCAT





*Please ask about availability of specific combinations

Can't find the right variant? Please contact us (info@tr-electronic.de)

Headquarters

TR-Electronic GmbH
Eglishalde 6
D-78647 Trossingen
Germany
Tel.: +49/7425 228-0
Fax: +49/7425 228-33
info@tr-electronic.de
www.tr-electronic.de

International

Argentina
AEA Aparátos Eléctricos Automáticos S.A.C.I.E.
Asunción 2130
AR-1419 Buenos Aires
Tel.: +54/11 - 4574 1155
Fax: +54/11 - 4574 2400
servicioalcliente@aea.com.ar
www.aea.com.ar

Australia (New Zealand)
Sensor Measurement
Unit 8/26 Shields Crescent
P.O. Box 1079
AU-Booragoon
Western Australia 6154
Tel.: +61/8-93 17 25 52
Fax: +61/8-93 17 24 52
sales@sensormeasurement.com.au
www.sensormeasurement.com.au

Australia (New Zealand)
Leuze electronic PTY Ltd.
Unit 2/10 Assembly Drive
Dandenong South VIC 3175
Tel.: +61/1300 538 933
Fax: +61/3 9738 2677
sales@leuze.com.au
www.leuze.com.au

Austria
TR-Electronic GmbH
Tragösserstraße 117
A-8600 Bruck/Mur
Tel.: +43/3862–55006 0
Fax: +43/3862–55006 33
info@tr-electronic.at
www.tr-electronic.at

Belgium
TR-Electronic Benelux
Dorpstraat 18C
NL-5386AM Geffen
Tel.: +31/73 844 9600
Mobil: +31/6383 28 303
rene.verbruggen@tr-electronic.nl
www.tr-electronic.nl

Brazil
Autron Automação
Rua dos Caetés 601
CEP - 05419-000
BR-Perdizes - São Paulo - SP
Tel.: +55/11-2168 655-4
Fax: +55/11-2168 655-5
info@autron.com.br
www.autron.com.br

Canada
TR Electronic
P.O. Box 2543, Station B
CA-London
Ontario Canada N6A 4G9
Tel.: +1/519-452 1999
Fax: +1/519-452 1177
customercare@trelectronic.com
www.trelectronic.com

Chile
Autron Automação
Rua dos Caetés 601
CEP - 05419-000
BR-Perdizes - São Paulo - SP
Tel.: +55/11-2168 655-4
Fax: +55/11-2168 655-5
info@autron.com.br
www.autron.com.br

China
TR-Electronic (Beijing) CO., Ltd.
Building G3, Baiyiwen Park,
Jiu Xian Qiao Nan Road No. 9
Chaoyang District
CN-100027 Beijing, P.R. China
Tel.: +86/10 - 582 386 55
Fax: +86/10 - 582 372 10
lu.yu@tr-electronic.de
www.tr-electronic.com.cn

Czech Republic, Slovakia
DEL a.s.
Biskupský dv□r 1146/7
Nové M□sto
CZ-110 00 Praha 1
Tel.: +420/566 657 111
Fax: +420/566 621 657
tr-electronic@del.cz
www.del.cz

Denmark
TR Electronic Nordic AB
Garnisonsgatan 52
S - 254 66 Helsingborg
Tel.: +46 8 756 72 20
Fax: +46 8 756 76 80
info@trelectronic.se
www.trelectronic.dk

Estland
TR Electronic Oy
Jaakonkatu 2
FI-01620 Vantaa
Tel.: +358/40 759 1853
info@trelectronic.fi
www.trelectronic.fi

Finland
TR Electronic Oy
Jaakonkatu 2
FI-01620 Vantaa
Tel.: +358 503 500 552
info@trelectronic.fi
www.trelectronic.fi

France
TR-Electronic France SARL
1 Avenue
Christian Doppler - Bat 2
FR-77700 Serris
Tel.: +33/1-64 63 68 68
Fax: +33/1-61 10 17 66
info@tr-electronic.fr
www.tr-electronic.fr

Great Britain
TR-Electronic Ltd.
2 Barford Exchange
Wellesbourne Road
Barford, Warwick Warwickshire
CV35 8AQ
Tel.: +44/1926 75 41 41
info@tr-electronic.co.uk
www.tr-electronic.co.uk

India
Spohn + Burkhardt India Electrotechnical Pvt Ltd
#68/3-1, Ground & First Floor
Yeshwantpura Industrial Suburb
Ashoka Puram Road
560 022 Bengaluru / Karnataka
India
Mobile: +91/98451 46948
info@spobu-india.in
www.spobu-india.in

Israel
Dor Drives Systems 2020 Ltd.
6 Granite St.
IL-4951405 Petah Tikva
Tel.: +972/3 900 75 95
Fax: +972/3 900 75 99
info@doreng.co.il
www.doreng.co.il

Italy
Telestar S.r.l.
Via Novara, 35
IT-28010 Vaprio D'Agogna (NO)
Tel.: +39/03-21 966-768
Fax: +39/03-21 966-281
telestar@telestar-automation.it
www.telestar-automation.it

Japan
SANTEST CO. Ltd.
1-60 Tsuneyoshi, 1-Chome
Konohanaku
J-Osaka 554-8691
Tel.: +81/6-6465 5561
Fax: +81/6-6465 5921
info@santest.co.jp
www.santest.co.jp

Latvia
TR Electronic Oy
Jaakonkatu 2
FI-01620 Vantaa
Tel.: +358/40 759 1853
info@trelectronic.fi
www.trelectronic.fi

Lithuania
TR Electronic Oy
Jaakonkatu 2
FI-01620 Vantaa
Tel.: +358/40 759 1853
info@trelectronic.fi
www.trelectronic.fi

Mexico
TR Electronic
P.O. Box 2543, Station B
CA-London, Ontario Canada
N6A 4G9
Tel.: +1/519-452 1999
Fax: +1/519-452 1177
customercare@trelectronic.com
www.trelectronic.com

Netherlands
TR-Electronic Benelux
Dorpstraat 18C
NL-5386AM Geffen
Tel.: +31/73 844 9600
Mobil: +31/6383 28 303
rene.verbruggen@tr-electronic.nl
www.tr-electronic.nl

Norway
TR Electronic Nordic AB
Garnisonsgatan 52
SE-254 66 Helsingborg
Tel.: +46/8-756 72 20
Fax: +46/8-756 76-80
info@trelectronic.se
www.trelectronic.se

Peru
Grupo C+Tecnologia
Rua dos Caetés 601
CEP-05419-000
BR-Perdizes - São Paulo - SP
Tel.: +55/11-2168 6554
Fax: +55/11-2168 6555
info@autron.com.br
www.autron.com.br

Poland
Stoltronic-Polska Sp.z o.o. Sp.k.
Ul. Papiernicza 7e,
P - 92-312 Łód□
Tel.: +48/42 649 12 15
Fax: +48/42 649 11 08
stoltronic@stoltronic.pl
www.stoltronic.pl

Republic of Korea
MS Intech Co., Ltd.
B-306 SK Twintech Tower
345-9 Gasan-dong/
Geumcheon-gu
KR-08589 Seoul
Tel.: +82/2-334 0577
Fax: +82/2-862 1591
sales@msintech.com
www.msintech.com

Saudi-Arabia
ÜNİVERSA İÇ ve DIŞ TİC. MAK. SAN. LTD. ŞTİ.
Cemal Gürsel Caddesi No: 11/7
TR-35600 Kar□ıyaka-IZMIR
Tel.: +90/232 382 23 14
Fax: +90/232 382 23 24
info@universa.com.tr
www.universa.com.tr

Singapore / Indonesia / Malaysia / Philippines / Vietnam
Globaltec Electronics (Far East) Pte. Ltd.
50 Bukit Batok Street 23
#06-27 Midview Building
SG-659578 Singapore
Tel.: +65/6267 9188
Fax: +65/6267 8011
janice@globaltec.com.sg
www.globaltec.com.sg

Slovenia
S.M.M. d.o.o.
Jaskova 18
SI-2001 Maribor
Tel.: +386/2450 2300
Fax: +386/2450 2302
info@smm.si
www.smm.si

South Africa
Angstrom Group (Pty) Ltd.
Sybrand van Niekerk
Business Park Meyerton
19 Tom Muller Road
ZA-1960 Meyerton
Tel.: +27/362 0300
info@angstromeng.co.za
www.angstromgroup.co.za

Spain, Portugal
Intertronic Internacional, SL
C/Johannes Gutenberg, 4 y 6
Parque Tecnológico Paterna
ES-46980 Valencia
Tel.: +34/963 758 050
Fax: +34/963 751 022
info@intertronic.es
www.intertronic.es

Sweden
TR Electronic Nordic AB
Garnisonsgatan 52
SE-254 66 Helsingborg
Tel.: +46/8-756 72 20
Fax: +46/8-756 76-80
info@trelectronic.se
www.trelectronic.se

Switzerland
TR-Electronic SA
14, Ch. Pré-Fleuri
CH-1228 Plan-les-Ouates/Genève
Tel.: +41/22-7 94 21 50
Fax: +41/22-7 94 21 71
info@tr-electronic.ch
www.tr-electronic.ch

Taiwan
TR-Electronic (Beijing) CO., LTD.
Room 717 / 718, Building A2
Electronic City Science Park
Jiu Xian Qiao Dong Road No. 9
Chaoyang District
CN-100027 Beijing, P.R. China
Tel.: +86/10 - 582 386 55
Fax: +86/10 - 582 372 10
lu.yu@tr-electronic.de
www.tr-electronic.com.cn

Thailand
T+R Electronic (Thailand) Co., Ltd.
120/62 Moo 8 Bang Sare
TH-Sattahip, Chonburi 20250
Tel.:+66/38 737 487
Fax:+66/38 737 171
trthailand@trelectronic.co.th
www.trelectronic.co.th

Türkiye / Lebanon / Jordan
ÜNİVERSA İÇ ve DIŞ TİC. MAK. SAN. LTD. ŞTİ.
Cemal Gürsel Caddesi No: 11/7
TR-35600 Kar□ıyaka-IZMIR
Tel.: +90/232 382 23 14
Fax: +90/232 382 23 24
info@universa.com.tr
www.universa.com.tr

USA (TR Electronic)
TR Electronic
200 East Big Beaver Road
Suite 164
US-Troy, MI 48083
Tel.: +1/248-244-2280
Fax: +1/248-244-2283
customercare@trelectronic.com
www.trelectronic.com

USA (TRsystems)
TRS Fieldbus Systems, Inc.
666 Baldwin Court
US-Birmingham, MI 48009
Tel.: +1/586 826-9696
Fax: +1/586 826-9697
support@trs-fieldbus.com
www.trs-fieldbus.com

10/2026

TR Electronic GmbH
Eglishalde 6
D - 78647 Trossingen

Tel. +49 7425 228 - 0
Fax +49 7425 228 - 33

info@tr-electronic.de
www.tr-electronic.de

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