Comunicazione di Cambio Prodotti

Sarego, 3 Febbraio 2025

Si comunica con la presente che Eltra introdurrà dei cambiamenti nei seguenti prodotti:
EMA 36B – EMA 36F/G – EAM36B – EAM36 F/G

Tipo di cambio
Aggiornamento elettronica sensore

Motivo del cambiamento
Miglioramento prestazioni

Descrizione del cambiamento
Nell'ottica del miglioramento continuo dei prodotti verrà introdotta una nuova versione del sensore monogiro all'interno del prodotto con aumento di prestazioni rispetto alla serie precedente

- Risoluzione massima disponibile 15 bit → 18 bit
- Precisione ± 0,35°→ ± 0,20°

Effetti del cambiamento sul montaggio, funzionalità, qualita o affidabilità
Nessun impatto su codice ordinativo, funzionalità, montaggio, qualità o affidabilità.

Data di cambio
Per consegne effettuate da Marzo 2025 previo esaurimento scorte precedenti

In caso di domande o di dubbi riferiti alle Comunicazioni di Obsolescenza Prodotti, si invita a consultare la pagina '**Obsolescenza Articoli | PCN**' all'interno della sezione '**Servizi & Assistenza**' (http://www.eltra.it/servizi-and-assistenza/) o a contattarci (Tel: 0444 436489 **|** support.eltra@broadcom.com).

Product Change Notification

Sarego, February 3th 2025

This PCN is a formal communication that Eltra will change the following product(s):
EMA 36B – EMA 36F/G – EAM36B – EAM36 F/G

Change type
Update of sensor electronic

Reason for change
Performance improve

Change description
As part of our ongoing continuous products improvement a new version of singleturn sensor will be introduced. This new version will offer an increase in performance compared to the previous version.

- Maximum singleturn available resolution 15 bit → 18 bit
- Accuracy ± 0,35°→ ± 0,20°

Effect of change on fit, functionality, quality or reliability
No impact on ordering code, functionality, assembly, quality or reliability.

Effective date of change
For deliveries from March 2025, subject to previous depletion of materials

If you have any questions or concerns about EOL/PCN, please check the page '**Product Change Notification**' within the section '**Services & Support'** of our website (http://www.eltra.it/services-and-support/) or contact us (Tel: +39 0444 436489 **|** support.eltra@broadcom.com).

EMA 36 B
SSI
SOLID SHAFT MAGNETIC SINGLETURN ABSOLUTE ENCODER

MAIN FEATURES

Miniaturised singleturn absolute encoder for applications with limited space.

- Contactless magnetic sensing technology (magnetic ASIC)
- Up to 18 bit as singleturn resolution
- Power supply up to +30 V DC with SSI as electrical interface
- Code reset for easy setup
- Cable or M12 output, other connectors available at cable end
- 6 mm diameter solid shaft
- Mounting by syncronous flange

ORDERING CODE	EMA	36B	13	G	8/30	S	P	X	6	X	8	M12R	.162	+XXX

SERIES
magnetic singleturn absolute encoder EMA

MODEL
syncronous flange ø 33 mm 36B

RESOLUTION
from 1 to 18 bit
please directly contact our offices for other pulses

CODE TYPE
binary B
gray G

POWER SUPPLY
5 V DC 5
8 ... 30 V DC 8/30

ELECTRICAL INTERFACE
Serial Synchronous Interface - SSI S

LOGIC
positive P

OPTIONS
to be reported if not used X
reset with external input ZE

SHAFT DIAMETER
mm 6

ENCLOSURE RATING
IP 67 cover side / IP 65 shaft side X

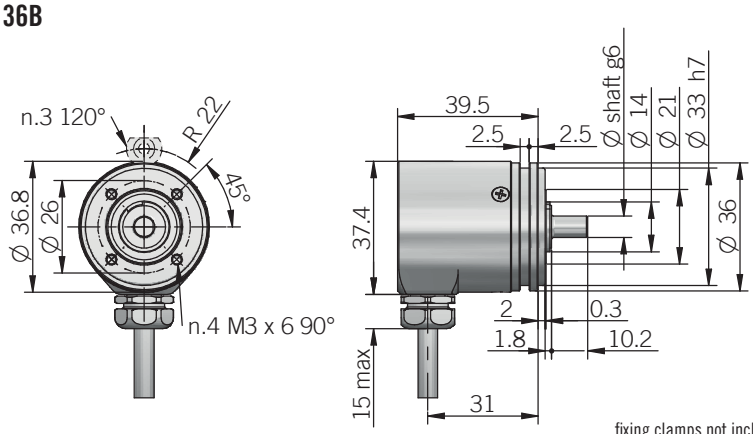
MAX ROTATION SPEED
8000 rpm 8

OUTPUT TYPE
radial cable (standard length 0,5 m) PR
preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)
8 pin M12 radial plug connector M12R

SOCKET
socket not included .162
to be reported only with connector output (eg. M12R.162), for socket see Accessories

VARIANT
custom version XXX

36B



recommended mating shaft tolerance H7
dimensions in mm

fixing clamps not included, please refer to Accessories

ELECTRICAL SPECIFICATIONS

Resolution	from 1 to 18 bit
Power supply[1]	5 = 4,75 ... 5,25 V DC 8/30 = 7,6 ... 30 V DC (reverse polarity protection)
Power draw without load	< 0,4 W
Electrical interface[2]	RS-422 (THVD1451 or similar)
Auxiliary inputs (U/D - RESET)	active high (+V DC) connect to 0 V if not used / RESET t_{min} 150 ms
Clock frequency	100 kHz ... 1 MHz
Code type	binary or gray
SSI monostable time (Tm)	20 µs
SSI pause time (Tp)	> 35 µs
SSI frame	left aligned format MSB ... LSB up to 13 bit = length 13 bit 14 to 18 bit = length 18 bit
SSI status and parity bit	on request
Counting direction	decreasing clockwise (shaft view)
Start-up time	150 ms
Accuracy (at +20°C / +68°F)	± 0,20°
Mean time to dangerous failure ($MTTF_d$)[3] according to EN ISO 13849-1	230 years
Mission time (Tm)[3]	20 years
Diagnostic coverage (DC)[3]	0%
Cable type	shielded - fixed installation conductors section 0,14 mm^2 / AWG 26 bending radius min 60 mm
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	file n. E212495

CONNECTIONS

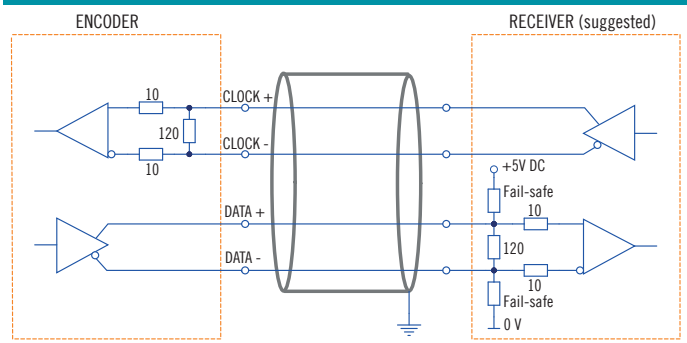
Function	Cable	8 pin M12
+ V DC	red	8
0 V	black	5
DATA +	green	3
DATA -	brown or grey	2
CLOCK +	yellow	4
CLOCK -	orange	6
U / D	red / blue	7
RESET	white	1
⏚	shield	housing

MECHANICAL SPECIFICATIONS

Shaft diameter	ø 6 mm
Enclosure rating	IP 67 cover side / IP 65 shaft side (IEC 60529)
Rotation speed	8000 rpm continuous / 10000 rpm max
Max shaft load[4]	20 N (4,5 lbs) axial / radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	20 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	0,001 x 10^{-6} kgm^2 (0,02 x 10^{-6} $lbft^2$)
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin)
Bearing stage material	aluminum
Shaft material	stainless steel
Housing material	chrome plated steel
Bearings	n.2 ball bearings
Bearings life	10^9 revolutions
Operating temperature[5, 6]	-30° ... +100°C (-22° ... +212°F) -25° ... +85°C (-13° ... +185°F) with M12 connector
Storage temperature[6]	-25° ... +85°C (-13° ... +185°F)
Weight	150 g (5,29 oz)

[1] as measured at the transducer without cable influences
[2] for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section
[3] this product is not a safety component, for further details refer to TECHNICAL BASICS section
[4] maximum load for static usage
[5] measured on the transducer flange
[6] condensation not allowed

SSI ELECTRICAL INTERFACE



M12 connector (8 pin)
M12 A coded
front view

EMA 36 F / G
SSI
BLIND HOLLOW SHAFT MAGNETIC SINGLETURN ABSOLUTE ENCODER

MAIN FEATURES

Miniaturised singleturn absolute encoders for applications with limited space.

- Contactless magnetic sensing technology (magnetic ASIC)
- Up to 18 bit as singleturn resolution
- Power supply up to +30 V DC with SSI as electrical interface
- Code reset for easy setup
- Cable or M12 output, other connectors available at cable end
- Blind hollow shaft up to 10 mm diameter
- Mounting by stator coupling or torque pin

ORDERING CODE	EMA	36F	13	G	8/30	S	P	X	10	X	8	M12R	.162	+XXX

SERIES
magnetic singleturn absolute encoder EMA

MODEL
blind hollow shaft with stator coupling 36F
blind hollow shaft with torque pin 36G

RESOLUTION
from 1 to 18 bit
please directly contact our offices for other pulses

CODE TYPE
binary B
gray G

POWER SUPPLY
5 V DC 5
8 ... 30 V DC 8/30

ELECTRICAL INTERFACE
Serial Synchronous Interface - SSI S

LOGIC
positive P

OPTIONS
to be reported if not used X
reset with external input ZE

BORE DIAMETER
(3/8") mm 9,52
mm 10
diameters 4 / 5 / 6 / 6,35 (1/4") / 8 mm with optional shaft adapter, see Accessories

ENCLOSURE RATING
IP 67 cover side / IP 66 shaft side X

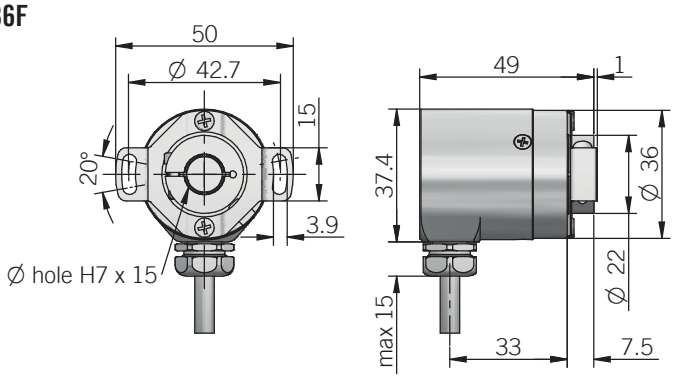
MAX ROTATION SPEED
8000 rpm 8

OUTPUT TYPE
radial cable (standard length 0,5 m) PR
preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PDR5)
8 pin M12 radial plug connector M12R

SOCKET
socket not included .162
to be reported only with connector output (eg. M12R.162), for socket see Accessories

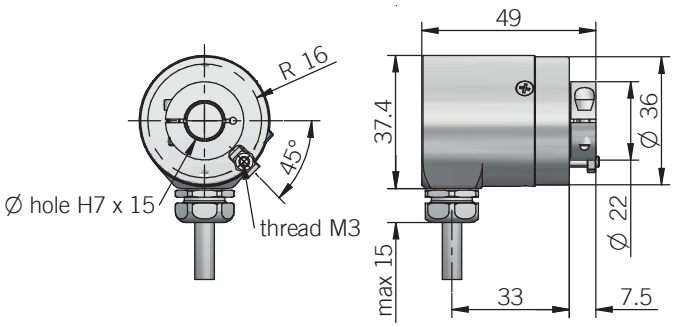
VARIANT
custom version XXX

36F



recommended mating shaft tolerance g6
dimensions in mm

36G



torque pin is included, for mounting instruction please refer to product installation notes

ELECTRICAL SPECIFICATIONS

Resolution	from 1 to 18 bit
Power supply[1]	5 = 4,75 ... 5,25 V DC 8/30 = 7,6 ... 30 V DC (reverse polarity protection)
Power draw without load	< 0,4 W
Electrical interface[2]	RS-422 (THVD1451 or similar)
Auxiliary inputs (U/D - RESET)	active high (+V DC) connect to 0 V if not used / RESET t_{min} 150 ms
Clock frequency	100 kHz ... 1 MHz
Code type	binary or gray
SSI monostable time (Tm)	20 µs
SSI pause time (Tp)	> 35 µs
SSI frame	left aligned format MSB ... LSB up to 13 bit = length 13 bit 14 to 18 bit = length 18 bit
SSI status and parity bit	on request
Counting direction	decreasing clockwise (shaft view)
Start-up time	150 ms
Accuracy (at +20°C / +68°F)	± 0,20°
Mean time to dangerous failure ($MTTF_d$)[3] **according to EN ISO 13849-1**	230 years
Mission time (Tm)[3]	20 years
Diagnostic coverage (DC)[3]	0%
Cable type	shielded - fixed installation conductors section 0,14 mm^2 / AWG 26 bending radius min 60 mm
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	file n. E212495

CONNECTIONS

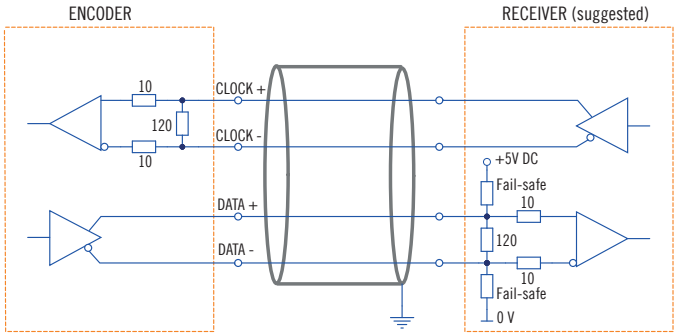
Function	Cable	8 pin M12
+ V DC	red	8
0 V	black	5
DATA +	green	3
DATA -	brown or grey	2
CLOCK +	yellow	4
CLOCK -	orange	6
U / D	red / blue	7
RESET	white	1
⏚	shield	housing

MECHANICAL SPECIFICATIONS

Bore diameter	ø 9,52 (3/8") / 10 mm ø 4* / 5* / 6* / 6,35 (1/4")* / 8* mm * with optional shaft adapter, please refer to Accessories
Enclosure rating	IP 67 cover side / IP 66 shaft side (IEC 60529)
Rotation speed	8000 rpm continuous / 10000 rpm max
Max shaft load[4]	20 N (4,5 lbs) axial / radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	20 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	0,001 x 10^{-6} kgm^2 (0,02 x 10^{-6} $lbft^2$)
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin)
Bearing stage material	aluminum
Shaft material	stainless steel
Housing material	chrome plated steel
Bearings	n.2 ball bearings
Bearings life	10^9 revolutions
Operating temperature[5, 6]	-30° ... +100°C (-22° ... +212°F) -25° ... +85°C (-13° ... +185°F) with M12 connector
Storage temperature[6]	-25° ... +85°C (-13° ... +185°F)
Weight	150 g (5,29 oz)

[1] as measured at the transducer without cable influences
[2] for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section
[3] this product is not a safety component, for further details refer to TECHNICAL BASICS section
[4] maximum load for static usage
[5] measured on the transducer flange
[6] condensation not allowed

SSI ELECTRICAL INTERFACE



M12 connector (8 pin)
M12 A coded
front view

EAM 36 B
SSI

SOLID SHAFT MAGNETIC MULTITURN ABSOLUTE ENCODER

MAIN FEATURES

Miniaturised multiturn absolute encoder for applications with limited space.

- Non-contact proprietary magnetic sensing technology (ASIC + energy harvesting)
- Up to 58 bit as total resolution (18 bit singleturn + 40 bit multiturn)
- Power supply up to +30 V DC with SSI as electrical interface
- Code reset for easy setup
- Cable or M12 output, other connectors available at cable end
- 6 mm diameter solid shaft
- Mounting by syncronous flange

ORDERING CODE	EAM	36B	12	/	13	G	8/30	S	P	X	6	X	8	M12R	.162	+XXX

SERIES
magnetic multiturn absolute encoder EAM

MODEL
syncronous flange ø 33 mm 36B

MULTITURN RESOLUTION
turns from 1 to 17 bit

SINGLETURN RESOLUTION
from 1 to 18 bit

CODE TYPE
binary B
gray G

POWER SUPPLY
5 V DC 5
8 ... 30 V DC 8/30

ELECTRICAL INTERFACE
Serial Synchronous Interface - SSI S

LOGIC
positive P

OPTIONS
to be reported if not used X
reset with external input ZE

SHAFT DIAMETER
mm 6

ENCLOSURE RATING
IP 67 cover side / IP 65 shaft side X

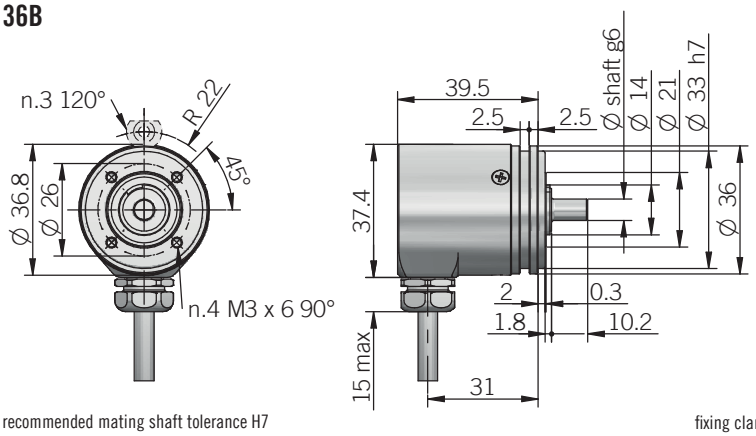
MAX ROTATION SPEED
8000 rpm 8

OUTPUT TYPE
radial cable (standard length 0,5 m) PR
preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)
8 pin M12 radial plug connector M12R

SOCKET
socket not included .162
to be reported only with connector output (eg. M12R.162), for socket see Accessories

VARIANT
custom version XXX

36B



recommended mating shaft tolerance H7
dimensions in mm

fixing clamps not included, please refer to Accessories

ELECTRICAL SPECIFICATIONS

Multiturn resolution	1 to 17 bit for multiturn resolution > 17 bit please contact our offices
Singleturn resolution	1 to 18 bit
Power supply[1]	5 = 4,75 ... 5,25 V DC 8/30 = 7,6 ... 30 V DC (reverse polarity protection)
Power draw without load	< 0,4 W
Electrical interface[2]	RS-422 (THVD1451 or similar)
Auxiliary inputs (U/D - RESET)	active high (+V DC) connect to 0 V if not used / RESET t_{min} 150 ms
Clock frequency	100 kHz ... 1 MHz
Code type	binary or gray
SSI monostable time (Tm)	20 µs
SSI pause time (Tp)	> 35 µs
SSI frame	tree format MSB ... LSB up to 12 bit multiturn = length 25 bit (12MT + 13ST) 14 bit multiturn = length 32 bit (14MT + 18ST) 15 to 17 bit multiturn = length 32 bit (17MT + 15ST)
SSI status and parity bit	on request
Counting direction	decreasing clockwise (shaft view)
Start-up time	150 ms
Accuracy (at +20°C / +68°F)	± 0,20°
Mean time to dangerous failure ($MTTF_d$)[3] **according to EN ISO 13849-1**	183 years
Mission time (Tm)[3]	20 years
Diagnostic coverage (DC)[3]	0%
Cable type	shielded - fixed installation conductors section 0,14 mm²/AWG 26 bending radius min 60 mm
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	file n. E212495

CONNECTIONS

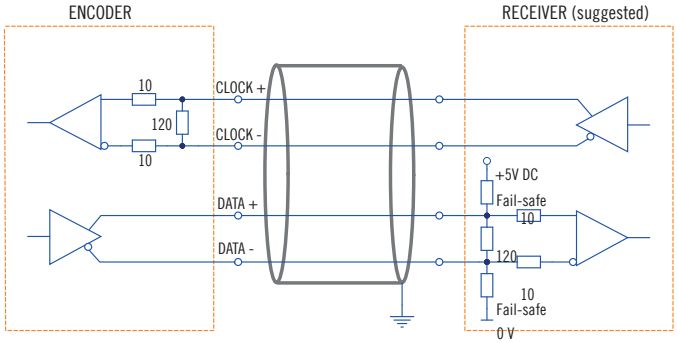
Function	Cable	8 pin M12
+ V DC	red	8
0 V	black	5
DATA +	green	3
DATA -	brown or grey	2
CLOCK +	yellow	4
CLOCK -	orange	6
U / D	red / blue	7
RESET	white	1
⏚	shield	housing

MECHANICAL SPECIFICATIONS

Shaft diameter	ø 6 mm
Enclosure rating	IP 67 cover side / IP 65 shaft side (IEC 60529)
Rotation speed	8000 rpm continuous / 10000 rpm max
Max shaft load[4]	20 N (4,5 lbs) axial / radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	20 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	0,001 x 10^{-6} kgm² (0,02 x 10^{-6} lbft²)
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin)
Bearing stage material	aluminum
Shaft material	stainless steel
Housing material	chrome plated steel
Bearings	n.2 ball bearings
Bearings life	10^9 revolutions
Operating temperature[5, 6]	-30° ... +100°C (-22° ... +212°F) -25° ... +85°C (-13° ... +185°F) with M12 connector
Storage temperature[6]	-25° ... +85°C (-13° ... +185°F)
Weight	150 g (5,29 oz)

[1] as measured at the transducer without cable influences
[2] for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section
[3] this product is not a safety component, for further details refer to TECHNICAL BASICS section
[4] maximum load for static usage
[5] measured on the transducer flange
[6] condensation not allowed

SSI ELECTRICAL INTERFACE



M12 connector (8 pin)
M12 A coded
front view

EAM 36 F / G
SSI

BLIND HOLLOW SHAFT MAGNETIC MULTITURN ABSOLUTE ENCODER

MAIN FEATURES

Miniaturised multiturn absolute encoders for applications with limited space.

- Non-contact proprietary magnetic sensing technology (ASIC + energy harvesting)
- Up to 58 bit as total resolution (18 bit singleturn + 40 bit multiturn)
- Power supply up to +30 V DC with SSI as electrical interface
- Code reset for easy setup
- Cable or M12 output, other connectors available on cable end
- Blind hollow shaft up to 10 mm diameter
- Mounting by stator coupling or torque pin

ORDERING CODE	EAM	36F	12	/	13	G	8/30	S	P	X	10	X	8	M12R	.162	+XXX

SERIES
magnetic multiturn absolute encoder EAM

MODEL
blind hollow shaft with stator coupling 36F
blind hollow shaft with torque pin 36G

MULTITURN RESOLUTION
turns from 1 to 18 bit

SINGLETURN RESOLUTION
from 1 to 18 bit

CODE TYPE
binary B
gray G

POWER SUPPLY
5 V DC 5
8 ... 30 V DC 8/30

ELECTRICAL INTERFACE
Serial Synchronous Interface - SSI S

LOGIC
positive P

OPTIONS
to be reported if not used X
reset with external input ZE

BORE DIAMETER
(3/8") mm 9,52
mm 10
diameters 4 / 5 / 6 / 6,35 (1/4") / 8 mm with optional shaft adapter, see Accessories

ENCLOSURE RATING
IP 67 cover side / IP 66 shaft side X

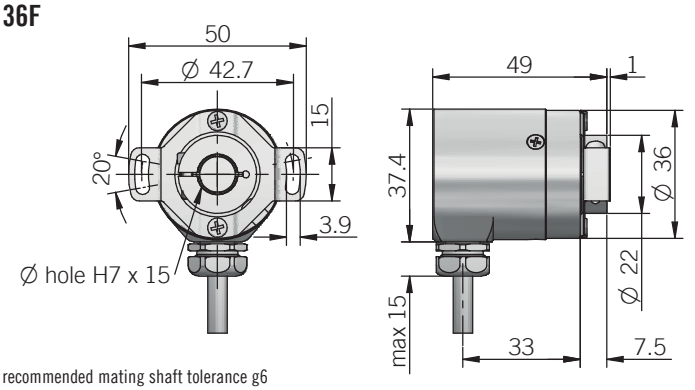
MAX ROTATION SPEED
8000 rpm 8

OUTPUT TYPE
radial cable (standard length 0,5 m) PR
preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PCR5)
8 pin M12 radial plug connector M12R

SOCKET
socket not included .162
to be reported only with connector output (eg. M12R.162), for socket see Accessories

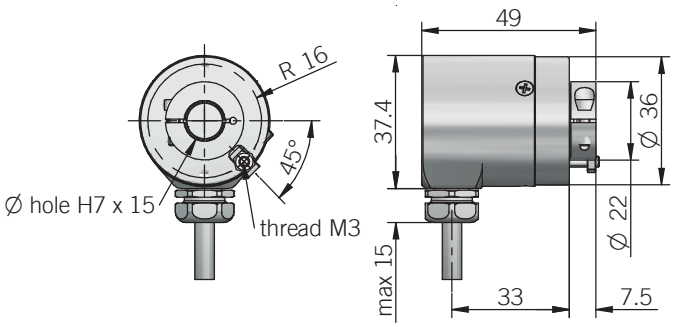
VARIANT
custom version XXX

36F



recommended mating shaft tolerance g6
dimensions in mm

36G



torque pin is included, for mounting instruction please refer to product installation notes

ELECTRICAL SPECIFICATIONS

Multiturn resolution	1 to 17 bit for multiturn resolution > 17 bit please contact our offices
Singleturn resolution	1 to 18 bit
Power supply[1]	5 = 4,75 ... 5,25 V DC 8/30 = 7,6 ... 30 V DC (reverse polarity protection)
Power draw without load	< 0,4 W
Electrical interface[2]	RS-422 (THVD1451 or similar)
Auxiliary inputs (U/D - RESET)	active high (+V DC) connect to 0 V if not used / RESET t_{min} 150 ms
Clock frequency	100 kHz ... 1 MHz
Code type	binary or gray
SSI monostable time (Tm)	20 µs
SSI pause time (Tp)	> 35 µs
SSI frame	tree format MSB ... LSB up to 12 bit multiturn = length 25 bit (12MT + 13ST) 14 bit multiturn = length 32 bit (14MT + 18ST) 15 to 17 bit multiturn = length 32 bit (17MT + 15ST)
SSI status and parity bit	on request
Counting direction	decreasing clockwise (shaft view)
Start-up time	150 ms
Accuracy (at +20°C / +68°F)	± 0,20°
Mean time to dangerous failure ($MTTF_d$)[3] according to EN ISO 13849-1	183 years
Mission time (Tm)[3]	20 years
Diagnostic coverage (DC)[3]	0%
Cable type	shielded - fixed installation conductors section 0,14 mm^2 / AWG 26 bending radius min 60 mm
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	file n. E212495

CONNECTIONS

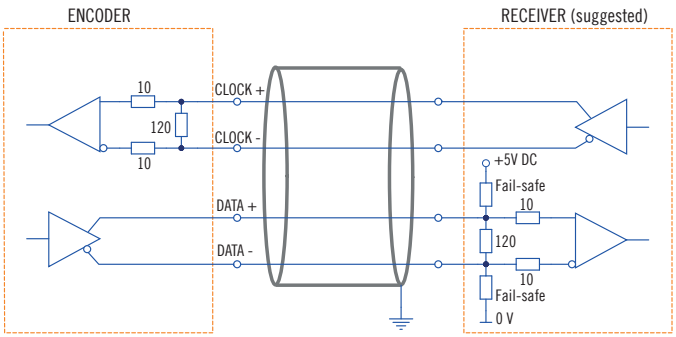
Function	Cable	8 pin M12
+ V DC	red	8
0 V	black	5
DATA +	green	3
DATA -	brown or grey	2
CLOCK +	yellow	4
CLOCK -	orange	6
U / D	red / blue	7
RESET	white	1
⏚	shield	housing

MECHANICAL SPECIFICATIONS

Bore diameter	ø 9,52 (3/8") / 10 mm ø 4* / 5* / 6* / 6,35 (1/4")* / 8* mm * with optional shaft adapter, please refer to Accessories
Enclosure rating	IP 67 cover side / IP 66 shaft side (IEC 60529)
Rotation speed	8000 rpm continuous / 10000 rpm max
Max shaft load[4]	20 N (4,5 lbs) axial / radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	20 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	0,001 x 10^{-6} kgm^2 (0,02 x 10^{-6} $lbft^2$)
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin)
Bearing stage material	aluminum
Shaft material	stainless steel
Housing material	chrome plated steel
Bearings	n.2 ball bearings
Bearings life	10^9 revolutions
Operating temperature[5, 6]	-30° ... +100°C (-22° ... +212°F) -25° ... +85°C (-13° ... +185°F) with M12 connector
Storage temperature[6]	-25° ... +85°C (-13° ... +185°F)
Weight	150 g (5,29 oz)

[1] as measured at the transducer without cable influences
[2] for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section
[3] this product is not a safety component, for further details refer to TECHNICAL BASICS section
[4] maximum load for static usage
[5] measured on the transducer flange
[6] condensation not allowed

SSI ELECTRICAL INTERFACE



M12 connector (8 pin)
M12 A coded
front view