30 YEARS
YOUNG
1982.2012

lika®

Smart encoders & actuators

Rotary actuators, displays & interfaces 2013

ROTAPULS

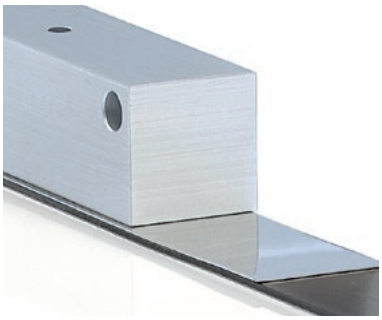
Incremental rotary encoders

ROTACOD

Absolute rotary & Fieldbus encoders

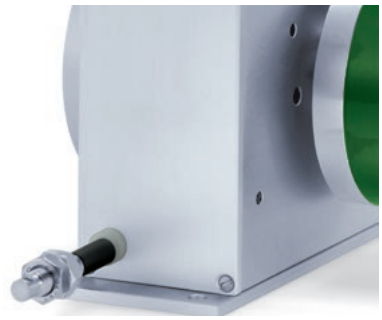
ROTAMAG

Rotary Magnetic encoder &
Encoder modules



LINEPULS – LINECOD

Linear Absolute & Incremental encoders



DRAW-WIRE

Draw-wire encoders & potentiometers

COUPLINGS

Flexible & Transmission couplings

POSICONTROL

Displays & Signal converters
Encoder Interfaces

DRIVECOD

Rotary Actuators & Positioning units

30 YEARS YOUNG
1982.2012

1982
Lika Electronic founded in Schio (VI).

1983
Lika numbers 8 customers.

1985
Lika starts the production of absolute encoders for the German market.

1986
Manufacturing of absolute encoders with integrated display and incremental encoders for the Italian market.

1987
Lika produces a 50 mm diameter miniature encoder, the smallest absolute encoder in Europe.

1991
Foundation of Lika Trading commercial corporate.

1993
Lika Electronic is the first company in Italy to offer a complete portfolio of encoders in the 58 mm diam. range.

1995
The 100,000th encoder rolled off the production line.

1996
ROTACAM ASR58 is the first absolute encoder fitted with integrated cam programmer.

1997
Lika is first certified to ISO 9001:1994.

1982 1986 1990 1995

An international family company, corporate profile

Lika Electronic stands for encoders and position measuring systems. Since its inception in 1982, Lika Electronic develops and manufactures *incremental and absolute, optical and magnetic, rotary and linear encoders, incremental & absolute sensors, linear and rotary incremental & absolute magnetic measurement systems, rotary actuators, displays, signal converters and encoder interfaces.*

Starting as a family-owned business, thanks to its technical competence and comprehensive know-how in the automation industry along with the high quality standards and the skill in providing solutions that target specific customer needs, over the years **Lika Electronic has grown becoming a forward thinking innovative and global company** and has become one of the leading manufacturers of optical encoders and magnetic measurement systems in Europe and worldwide.
Many key features include the extensive technical engineering skills , in-depth knowledge and expertise in digital and analogical electronic design as well as the proven daily practice in co-operation with universities, research institutions and customers in order to **develop and provide advanced electronic equipment and high-tech materials & devices tailored to specific customer and market requirements**. Moreover software development and mechanical & optical components design are entirely performed within the company. Often production machinery and tools are often engineered and built internally to satisfy specific needs and performances.

Every day Lika Electronic is committed to being a step ahead and always at the forefront of innovation, looking to the future with the enthusiasm that steers the company towards new opportunities *without giving up the strength of being an international family company.*

Lika Electronic is certified for compliance with ISO 9001:2000 quality management system and is now committed to adopt an environmental management system complying with ISO 14001:2004 requirements. All Lika's products are designed and manufactured to fully meet the requirements of CE, RoHS and REACH directives, most of them are UL and CSA compliant too. ATEX certified solutions suitable to be integrated into potential explosive environments and hazardous areas are also available.

Global presence, make us closer to the customer

Every day, everywhere Lika Electronic works in close contact with its customers to build strong, long-lasting relationships and support them at all times in each day-to-day requirement.
Lika's actions focus on customers' needs with daily challenges to develop reliable and cutting edge solutions.
Continuous innovation, outstanding expertise, overall quality, prompt action and maximum flexibility are the fundamental values that Lika Electronic is truly proud of offering its customers when working together.
Lika Electronic operates all over the world providing a widespread and efficient global distribution network, offering unrivalled technical support and excellent customer service.
At the present time the export share is approximately 60% of the turnover in more than 50 countries.

2000

1998
First 16-bit resolution single-turn absolute encoder engineered for installation in aerostatic probes developed by Florence University.

2000
ROSETTA space probe project gets under way in co-operation with CISAS.

2002
Production in antistatic environment (ESD). DRIVECOD & POSICONTROL product ranges are launched in the market.

1999
Lika Electronic moves its corporate headquarters to Carrè (VI) establishing in new larger production and office premises.

2001
Foundation of Lika subsidiary in Germany.

2004

2004
Arianne 5 rocket successfully launched: Rosetta probe fits Lika encoders.

2007
Lika Electronic celebrates its 25th anniversary with a series of special events.

2008

2008
ALMA project: giant array of 12-m radio telescopes equipped with special custom-made Lika encoders.

2010
Lika introduces the innovative range of heavy-duty products dedicated to steel & iron industry and wind mills.

2012

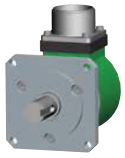
2012
30th anniversary: "30 new products for our 30 years" event launched.

Product news calendar

2013
new products | website | catalogues

Gennaio | *January*

01@20
SMI5 "Selector"



02@20
IT68 tool machine encoder

Febbraio | *February*

03@20
SFA absolute draw-wire encoder

04@20
SMRI magnetic ring encoder

Marzo | *March*

NEW Catalogue!
DRIVECOD-POSICONTROL
Rotary actuators, position displays, interfaces & signal converters

05@20
EM58 TA

06@20
MOR flexible coupling with electric insulation

Aprile | *April*

NEW
corporate website!
www.lika.biz

07@20
C50 hollow shaft encoder

08@20
SMAX Low-cost position sensor

Maggio | *May*

09@20
MSK36

10@20
MH58S Heavy-duty absolute encoder

Giugno | *June*

11@20
AMR58 cam switch encoder

Luglio | *July*

NEW Catalogue!
ROTAPULS-ROTACOD
Rotary incremental & absolute encoders, magnetic ring encoders and draw wire unit

12@20
RD6 rotary actuator

13@20
MS36 TT

Agosto | *August*

14@20
MOM Ultra-robust coupling

Settembre | *September*

15@20
SMG Tooth Sensor

16@20
SMA Absolute Sensor

Ottobre | *October*

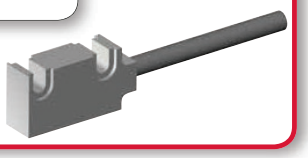
17@20
SM oem

18@20
HM58 high resolution with PROFINET

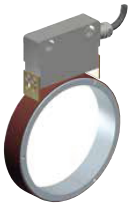
Novembre | *November*

NEW Catalogue!
LINEPULS-LINECOD
Linear encoders, incremental & absolute magnetic measurement system

19@20
SMB UHV



Dicembre | *December*



20@20
SMRA absolute ring encoder

Follow us on...

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1982.2012

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Smart encoders & actuators

DRIVECOD rotary actuators

		Page	Dimensions (mm)	Hollow shaft ø (mm)	Shaft rotational speed max. (rpm)	Nominal torque (Nm)	Max. torque (Nm)	Motor brake	Power supply (Vdc)	RS232 service Modbus	CANopen	Profibus	Modbus RS485	Operating temp. °C (°F) min. - max.	Protection max.
	**RD1A** Positioning unit with absolute encoder Brushless motor Diagnostic LEDs **Industrial**	28	59 x 112 x 125	14	240 120 60	1,2 2,4 5	3 6 12		24	•	•	•	•	0 +60 (32 +140)	IP65
	**RD12A** Positioning unit with absolute encoder Brushless motor Diagnostic LEDs **Industrial**	30	59 x 142 x 125	14	240 120 60	1,2 2,4 5	3 6 12	•	24	•	•	•	•	0 +60 (32 +140)	IP65
	**RD5** Compact positioning unit with absolute encoder Brushless motor **Industrial**	32	48,3 x 88 x 126,6	14	60	5	12		24		•	•	•	0 +60 (32 +140)	IP54
	**RD52** Compact positioning unit with absolute encoder Brushless motor **Industrial**	32	48,3 x 88 x 126,6	14	60	5	12	•	24		•	•	•	0 +60 (32 +140)	IP54
	**RD4** Positioning unit with absolute encoder Brushless motor **Heavy-duty**	34	65 x 153 x 160	20	94 62	10 15	20 30		24		•	•	•	0 +60 (32 +140)	IP65

POSICONTROL displays & interfaces

		Page	Display	Display mode			Dimensions (mm)	Input				Counting frequency max. (kHz)	Interface RS232 / RS485	Power supply	Output max.
				linear	angular	mm/inch		ABO	SSI	1Vpp	Magnetic sensor				
	**LD120** Compact LED display for magnetic sensors **Industrial**	36	LED 5 digit	•	•	•	72 x 36 x 62				•	-	•	+10 +30	-
	**LD112** Compact LCD battery display **Industrial**	38	LCD 6 digit	•	•	•	72 x 48 x 31				•	-		battery	-
	**LD111 - LD141** Ultracompact OEM battery display **Industrial**	40 42	LCD 6 digit	•	•	•	61 x 39 x 23 87 x 60,5 x 47				•	-		battery	-
	**LD140 - LD142** Standard battery display **Industrial**	44	LCD 6 digit	•	•	•	96 x 72 x 47				•	-	•	battery	-
	**LD200** Universal position display **Industrial**	46	LED 8 digit	•	•	•	96 x 48 x 49	•	•	•	•	500	•	24 Vdc	3 x 24V @ 23mA
	**LD250** Absolute multi-function display **Industrial**	48	LED 6 digit	•		•	96 x 48 x 141		•			-	•	24 Vdc 115/230 Vac	0/4 - 20mA 0...±10Vdc
	**LD300** Incremental multi-function display **Industrial**	50	LED 6 digit	•		•	96 x 48 x 141	•				100	•	24 Vdc 115/230 Vac	0/4 - 20mA 0...±10Vdc
	**MC111- MC150** Position display for encoders Economic version (MC111) **Industrial**	52 54	LED 6 digit	•			96 x 72 x 60 96 x 72 x 71	•				25 1000		24 Vdc/Vac 24 Vdc/Vac 115 Vac 230 Vac	2 x 24V @ 600mA
	**MC221** Compact 2 axes position display **Industrial**	56	2 x LED 6 digit	•			96 x 96 x 72	•				500		24 Vdc	2 x 24V @ 600mA

POSICONTROL displays & interfaces

		Page	Description	Input	Output	Service interface	Functions
	**IF10** **Industrial**	58	Universal incremental encoder signal splitter, converter & switcher DIN rail mounting	2 inputs HTL or TTL / RS422	2 outputs HTL or TTL / RS422		Adjustable inputs and outputs signal levels (can be mixed) Contactless switch-over Up to 1 MHz input frequency
	**IF20** **Industrial**	59	Signal converter for incremental encoder DIN rail mounting	HTL or TTL / RS422	HTL or TTL / RS422		Output voltage according to remote voltage Input/Output galvanically separated AB quadrature to UP/DOWN conversion
	**IF30** **Industrial**	60	Sine/Cosine signal interpolator DIN rail mounting	1Vpp	HTL (AB0) or RS422 (AB0 /AB0)		Adjustable interpolation rate up to x50 Adjustable pulse divider Filtering functions
	**IF50** **Industrial**	61	Incremental signal to Analogue converter DIN rail mounting	HTL or TTL / RS422	± 10 V 0- 20 mA 4 - 20 mA	RS232 RS485	Signal linearization Scaling factor Teach-in function
	**IF51** **Industrial**	62	Absolute SSI to Analogue converter DIN rail mounting	SSI (up to 25 bit)	± 10 V 0- 20 mA 4 - 20 mA	RS232 RS485	Bit blanking function Signal linearization Scaling factor
	**IF52** **Industrial**	63	Absolute SSI to Bit parallel converter DIN rail mounting	SSI (up to 25 bit)	Push-Pull	RS232	Signal linearization Scaling factor
	**IF60 - IF61** **Heavy-duty**	64	Fibre-optic signal converters for incremental encoders IF60 transmitter IF61 receiver	HTL or TTL / RS422	Optical signal		Safe signal transmission up to 1000 m Suitable for explosive areas and environments with extremly high electromagnetic fields
	**IF62 - IF63** **Heavy-duty**	65	Fibre-optic signal converters for absolute encoders IF62 transmitter IF63 receiver	SSI	Optical signal		Safe signal transmission up to 1500 m Suitable for explosive areas and environments with extremly high electromagnetic fields

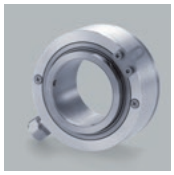
ROTAPULS incremental encoders

		Housing ø (mm)	Shaft max. ø (mm)	Shaft rotational speed max. (rpm)	Connection		Resolution max. (PPR)	Output frequency max. (kHz)	Power supply (Vdc)	NPN	PNP	1Vpp	Push-Pull	Line Driver	Universal circuit	Operating temp. °C (°F) min. - max.	Protection max.
					connector	cable											
	**IM30 - IM31 - IM56** Encoder modules **Light-duty** **Feedback**	30÷56	○ 8	3000	•		2048	100	+5	•				•		-40 +85 (-40 +185)	IP20
	**I28** Optical miniature encoder **Light-duty**	28	● 5	3000		•	1024	100	+5 +10 +30 +5 +30	•			•	•	•	-20 +70 (-4 +158)	IP54
	**MI36 - MC36** Magnetic encoders, compact **Light-duty**	36	● 6 ○ 6	12000		•	2048	300	+5 +10 +30	•			•	•		-25 +85 (-13 +185)	IP67
	**MI36K** Magnetic encoders Stainless steel version Food industry **Light-duty** **Food**	36	● 6	12000		•	2048	300	+5 +10 +30	•			•	•		-25 +85 (-13 +185)	IP67
	**I40 - I41** Optical encoders, compact **Light-duty**	40	● 8	6000		•	5000	50	+5 +10 +30 +5 +30	•	•		•	•	•	-25 +85 (-13 +185)	IP66
	**CK41 - CK46** Optical encoder, compact **Light-duty**	41 46	○ 6	6000		•	5000	50	+5 +10 +30 +5 +30	•	•		•	•	•	-25 +85 (-13 +185)	IP65
	**C50 - C51** Optical encoder High temperature **Industrial / Feedback**	50	○ 10	6000 3000		•	1024 2500	100	+5 +10 +30 +5 +30	•			•	•	•	-40 +100 (-40 +212) -25 +85 (-13 +185)	IP65
	**CB50** Optical encoder for servo motors UVW signals **Feedback**	50	○ 10	6000	•		2500/ 8 poles	200	+5 +10 +30				•	•		-20 +100 (-4 +212)	IP20
	**I58 - I58S** Optical standard encoders **Industrial**	58	● 12	12000	•	•	10000	300	+5 +10 +30 +5 +30	•	•	•	•	•	•	-40 +100 (-40 +212)	IP65

ROTAPULS incremental encoders

		Housing ø (mm)	Shaft max. ø (mm)	Shaft rotational speed max. (rpm)	Connection		Resolution max. (PPR)	Output frequency max. (kHz)	Power supply (Vdc)	NPN	PNP	1 Vpp	Push-Pull	Line Driver	Universal circuit	Operating temp. °C (°F) min. - max.	Protection max.
					connector	cable											
	**I58SK** Optical encoder Stainless steel version Food industry **Industrial** **Food**	58	● 12	12000	•	•	10000	300	+5 +10 +30 +5 +30	•	•	•	•	•	•	-40 +100 (-40 +212)	IP65
	**C58 - C59 - C60** Optical standard encoders Through hollow shaft **Industrial**	58	○ 15	6000	•	•	2500	100	+5 +10 +30 +5 +30				•	•	•	-40 +100 (-40 +212)	IP65
	**C58A - C58R** Optical standard encoders Through hollow shaft **Industrial / Feedback**	58	○ 15	6000	•	•	2500	100	+5 +10 +30 +5 +30				•	•	•	-40 +100 (-40 +212)	IP65
	**CK58 - CK59 - CK60** Optical standard encoders Blind hollow shaft **Industrial**	58	○ 15	6000	•	•	10000	300	+5 +10 +30 +5 +30	•	•	•	•	•	•	-40 +100 (-40 +212)	IP65
	**CB59 - CB60** Optical encoders for servo motors Sine/cosine **Feedback / Lift**	58	○ 15 ● 1:10	12000		•	2048/ 1 sin/cos	300	+5			•				-20 +100 (-4 +212)	IP40
	**MI58 - MI58S** Magnetic encoders Sealed circuits **Industrial**	58	● 12	12000	•	•	10000	500	+5 +10 +30 +5 +30				•	•	•	-25 +85 (-13 +185)	IP67
	**MC58 - MC59 - MC60** Magnetic encoders Sealed circuits Through hollow shaft **Industrial**	58	○ 15	6000	•	•	10000	500	+5 +10 +30 +5 +30				•	•	•	-25 +85 (-13 +185)	IP67
	**I65 - IT65** Optical encoders Square flange, US size **Industrial**	65	● 12	6000	•	•	10000	300	+5 +10 +30 +5 +30	•	•		•	•	•	-40 +100 (-40 +212)	IP66
	**XC77** Optical encoder ATEX II 2GD Ex d IIC T6 Areas 1, 2, 21, 22 **Heavy-duty**	77	○ 14	6000		•	10000	300	+5 +10 +30 +5 +30	•			•	•	•	-25 +85 (-13 +185)	IP66

ROTAPULS incremental encoders

		Housing ø (mm)	Shaft max. ø (mm)	Shaft rotational speed max. (rpm)	Connection		Resolution max. (PPR)	Output frequency max. (kHz)	Power supply (Vdc)	NPN	PNP	1Vpp	Push-Pull	Line Driver	Universal circuit	Operating temp. °C (°F) min. - max.	Protection max.
					connector	cable											
	**C80** Optical encoders for lift motors **Feedback / Lift**	80	○ 30	6000	•	•	4096	100	+5 +10 +30 +5 +30				•	•	•	-40 +100 (-40 +212)	IP65
	**C81** Optical encoders Through hollow shaft **Heavy-duty Feedback**	80	○ 44	3000		•	4096	200	+5 +10 +30 +5 +30			•	•	•	•	-40 +100 (-40 +212)	IP65
	**C82** Optical encoders for lift motors **Feedback / Lift**	80	○ 44	3000	•	•	4096	200	+5 +10 +30 +5 +30				•	•	•	-40 +100 (-40 +212)	IP65
	**I115 - I116** Optical encoders Redundant version (I116) **Heavy-duty / Wind**	115	● 11	6000	•		2500	100	+5 +10 +30 +5 +30	•	•		•	•	•	-40 +100 (-40 +212)	IP66
	**C100 - C101** Optical encoder for wind generator applications Redundant version (C101) **Heavy-duty / Wind**	100	○ 1:17 ○ 16	6000	•	•	2500 2048	100	+5 +10 +30 +5 +30				•	•	•	-40 +100 (-40 +212)	IP65
	**I70** Belt pulley with integrated encoder **Heavy-duty**	54	-	3600		•	500	30	+10 +30				•			-20 +85 (-4 +185)	IP65
	**ICS** Optical encoder Spring loaded shaft **Heavy-duty**	172x80 x53	● 12	6000	•		1068	60	+5 +10 +30 +5 +30	•	•		•	•	•	-25 +85 (-13 +185)	IP65
	**I105** Optical encoder High resolution **Industrial**	105	● 10	6000	•	•	18000	300	+5 +10 +30 +5 +30				•	•	•	-25 +85 (-13 +185)	IP65
	**SGSM - SGSD** Modular magnetic encoder Redundant (SGSD) **Heavy-duty Feedback**	-	○ 50	6000		•	1024	100	+5 +10 +30				•	•		-40 +85 (-40 +185)	IP68

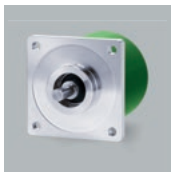
ROTACOD absolute encoders

		Housing ø (mm)	Shaft max. ø (mm)	Shaft rotational speed max. (rpm)	Connection		Resolution max. (bits)	Power supply (Vdc)	NPN / Push-Pull	SSI	BiSS	Modbus	Add. incremental track	Analogue output	Operating temp. °C (°F) min. - max.	Protection max.
					connector	cable										
	**MS36 - MSC36** Magnetic encoders Compact, singleturn **Light-duty**	36	○ 6 ● 6	12000		•	13	+10 +30		•					-20 +85 (-4 +185)	IP67
	**MM36 - MMC36** Magnetic encoders Compact, multiturn **Light-duty**	36	○ 6 ● 6	12000		•	12 x 15	+10 +30		•					-20 +85 (-4 +185)	IP67
	**AS36 - ASC36** Optical encoder Compact, singleturn High resolution **Industrial / Feedback**	36	○ 6 ● 6	6000		•	19	+10 +30		•	•				-40 +100 (-40 +212)	IP65
	**AM36 - AMC36** Optical encoder Compact, multiturn High resolution **Industrial / Feedback**	36	○ 6 ● 6	6000		•	19 x 12	+10 +30		•	•				-40 +100 (-40 +212)	IP65
	**ES58 - ES58S - ESC58** Optical encoders Standard, singleturn **Industrial**	58	○ 15 ● 12	12000	•	•	13	+7,5 +34	•	•		•	•		-40 +100 (-40 +212)	IP67
	**EM58 - EM58S - EMC58** Optical encoders Standard, multiturn **Industrial**	58	○ 15 ● 12	12000	•	•	13 x 14	+7,5 +34	•	•		•	•		-40 +100 (-40 +212)	IP67
	**HS58 - HS58S - HSC58** Optical singleturn encoders High resolution **Industrial / Feedback**	58	○ 15 ● 12	6000	•	•	19 + 2048 sin/cos	+10 +30		•	•		•		-40 +100 (-40 +212)	IP65
	**HM58 - HM58S - HMC58** Optical multiturn encoders High resolution **Industrial / Feedback**	58	○ 15 ● 12	6000	•	•	16 x 14 + 2048 sin/cos	+10 +30		•	•		•		-40 +100 (-40 +212)	IP65
	**HMCT** Optical multiturn encoder Through hollow shaft **Industrial / Feedback**	58	○ 15	6000	•	•	16 x 12 + 2048 sin/cos	+10 +30		•	•		•		-25 +85 (-13 +185)	IP65

ROTACOD absolute encoders

		Housing ø (mm)	Shaft max. ø (mm)	Shaft rotational speed max. (rpm)	Connection		Resolution max. (bits)	Power supply (Vdc)	NPN / Push-Pull	SSI	BiSS	Modbus	Add. incremental track	Analogue output	Operating temp. °C (°F) (max.)	Protection max.
					connector	cable										
	**AS58 - AS58S - ASC58** Optical singleturn encoders **Industrial**	58	○ 15 ● 12	6000	•	•	13	+10 +30	•	•					-40 +100 (-40 +212)	IP65
	**AM58 - AM58S - AMC58** Optical multiturn encoders **Industrial**	58	○ 15 ● 12	6000	•	•	13 x 12	+10 +30	•	•					-40 +100 (-40 +212)	IP65
	**MH58S** Magnetic multiturn For wind generators, steel mills & mobile equipment **Heavy-duty / Wind**	58	● 10	6000	•		12 x 12	+10 +30		•				•	-40 +85 (-40 +185)	IP67
	**MM58 - MM58S - MMC58** Magnetic multiturn encoders **Industrial**	58	○ 15 ● 12	12000		•	12 x 16	+10 +30		•					-20 +85 (-4 +185)	IP67
	**HM58 P - HM58S P HMC58 P** Optical multiturn encoders Programmable **Industrial**	58	○ 15 ● 12	6000	•	•	18 x 14	+10 +30	•	•					-40 +100 (-40 +212)	IP65
	**AS58 A - AM58 A** Optical absolute encoders Analogue output **Industrial**	58	○ 15 ● 12	6000	•		12 12 x 4 9 x 6 6 x 8	+15 +30						•	-25 +85 (-13 +185)	IP65
	**EM58 PA** Optical multiturn encoder Programmable analogue output **Industrial**	58	○ 15 ● 12	6000	•		13 x 14	+15 +30						•	-25 +85 (-13 +185)	IP65
	**ASR58 - ASR58S** Optical singleturn encoders Integrated cam switch programmer **Industrial**	58	● 12	6000	•		3600 / 0,1°	+10 +30	•					•	-25 +85 (-13 +185)	IP65
	**AST6** Optical singleturn encoder Square flange, US size **Industrial**	65	● 12	6000	•	•	13	+10 +30	•	•			•		-40 +100 (-40 +212)	IP66

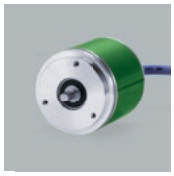
ROTACOD absolute encoders

		Housing ø (mm)	Shaft max. ø (mm)	Shaft rotational speed max. (rpm)	Connection		Resolution max. (Bit)	Power supply (Vdc)	NPN / Push-Pull	SSI	BiSS	Modbus	Add. incremental track	Analogue output	Operating temp. °C (°F) (max.)	Protection max.
					connector	cable										
	**AMT6** Optical multiturn encoder Square flange, US size **Industrial**	65	● 12	6000	•	•	13 x 14	+10 +30	•	•	•		•		-40 +100 (-40 +212)	IP66
	**XAC77** Optical multiturn encoder ATEX II 2GD Ex d IIC T6 Areas 1, 2, 21, 22 **Heavy-duty**	77	○ 14	6000		•	16 x 14	+10 +30	•	•	•		•	•	-25 +85 (-13 +185)	IP65
	**AM9 - AMC9** Optical multiturn encoders Flat design **Industrial**	88	○ 15 ● 10	6000	•		13 x 12	+10 +30		•					-40 +100 (-40 +212)	IP65

ROTACOD absolute encoders – Fieldbus

		Housing ø (mm)	Shaft max. ø (mm)	Shaft rotational speed max. (rpm)	Connection		Connection cap with PG	Connection cap with connectors	Resolution max. (bits)	Power supply (Vdc)	CANopen	CANopen LIFT	Profibus-DP	DeviceNet	EtherCAT	Operating temp. °C (°F) (max.)	Protection max.
					connector	cable											
	**AS58 PB - AS58S PB** **ASC58 PB** Optical singleturn encoders Profibus-DP interface **Industrial**	58	○ 15 ● 12	6000			•	•	13	+10 +30			•			-25 +85 (-13 +185)	IP65
	**AM58 PB - AM58S PB** **AMC58 PB** Optical multiturn encoders Profibus-DP interface **Industrial**	58	○ 15 ● 12	6000			•	•	13 x 12	+10 +30			•			-25 +85 (-13 +185)	IP65
	**AS58 CB - AS58S CB** **ASC58 CB** Optical singleturn encoders CANbus interface **Industrial**	58	○ 15 ● 12	6000			•	•	13	+10 +30	•	•				-25 +85 (-13 +185)	IP65
	**AM58 CB - AM58S CB** **AMC58 CB** Optical multiturn encoders CANbus interface **Industrial**	58	○ 15 ● 12	6000			•	•	13 x 12	+10 +30	•	•				-25 +85 (-13 +185)	IP65

ROTACOD Absolute encoders – Fieldbus

		Housing ø (mm)	Shaft max. ø (mm)	Shaft rotational speed max. (rpm)	Connection		Connection cap with PG	Connection cap with connectors	Resolution max. (bits)	Power supply (Vdc)	CANopen	CANopen LIFT	Profibus-DP	DeviceNET	EtherCAT	Operating temp. °C (°F) min. - max.	Protection max.
					connector	cable											
	**AM58 K** Optical multiturn encoders Profibus, CANbus interface Stainless steel version **Industrial / Food**	58	● 12	6000			•	•	13 x 12	+10 +30	•		•			-25 +85 (-13 +185)	IP65
	**ASx58x - AMx58x CANopen** Direct connection Single & multiturn **Industrial**	58	○ 15 ● 12	6000	•	•			18 16 x 14	+10 +30	•	•				-25 +85 (-13 +185)	IP65
	**HS58 FB - HS58S FB** **HSC58 FB** Optical singleturn encoders Fieldbus, high resolution **Industrial**	58	○ 15 ● 12	6000			•	•	18	+10 +30	•	•	•	•		-25 +85 (-13 +185)	IP65
	**HM58 FB - HM58S FB** **HMC58 FB** Optical multiturn encoders Fieldbus, high resolution **Industrial**	58	○ 15 ● 12	6000			•	•	16 x 14	+10 +30	•	•	•	•		-25 +85 (-13 +185)	IP65
	**HM58 EC - HM58S EC** **HMC58 EC** Optical multiturn encoders EtherCAT interface **Industrial**	58	○ 15 ● 12	6000			-	•	16 x 14	+10 +30					•	-25 +85 (-13 +185)	IP65
	**XAC77 PB + CB** ATEX multiturn encoder Profibus and CANbus interfaces (point to point) **Heavy-duty**	77	○ 14	6000		•			18 16 x 14	+10 +30	•		•			-25 +85 (-13 +185)	IP66
	**XAC77 FB** Absolute encoder Profibus, CANbus and DeviceNet interfaces **Heavy-duty**	77	○ 14	6000			•	•	18 16 x 14	+10 +30	•		•	•		-25 +85 (-13 +185)	IP66

DRAW WIRE UNITS & Accessories

		Dimensions (mm)	Measurement length max. (mm)	Stroke per turn (mm)	Measuring speed max. (m/sec)	Sensor		Potentiometer	Incremental encoder	Absolute encoder	Fieldbus encoder	Atex encoder
						integrated	external					
	**SFP** Draw wire potentiometer Miniature **Light-duty**	56 x 55 x 79	2000	100	2	•		•				
	**SFE** Draw wire encoder Miniature **Light-duty**	56 x 55 x 64	2000	100	2	•			•			
	**SFA** Draw wire encoder Miniature **Light-duty**	56 x 56 x 79	2000	100	1	•				•		
	**SFI - SFA** Draw wire unit Standard version **Industrial**	125 x 83 x 58	6800	200 204,8	2,5		•		•	•	•	
	**SAK-10000** **SAK-15000** Draw wire unit Reinforced winding mechanism **Industrial**	233,5 x 128 x 135	15000	300	10		•		•	•	•	•
	**SBK-20000, SBK-30000** **SBK-40000, SBK-50000** Draw wire unit Reinforced winding mechanism **Industrial**	401 x 190 x 200	50000	500	10		•		•	•	•	•

Flexible couplings

Complete range of encoder and transmission couplings

Flexible or rigid
Zero-backlash
Electrically insulated
Vibration absorbing
High torque & stiffness versions
Grub screw or collar fixing
Versions with keyway
Stainless steel versions

Mounting and Connection accessories

Mounting accessories for encoders and electrical connections

Spring loaded brackets
Mounting bells and adapter flanges
Fixing clamps, Reducing sleeves
Connectors
Cordets

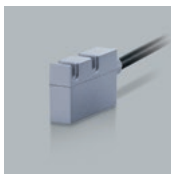
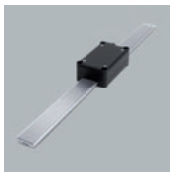
Metric wheels and Gears

Metric wheels with 200 and 500 mm circumference
Aluminum or Rubber surface
Metric wheel encoders (IR65 series on request)
Rack and pinions (for ICS series)

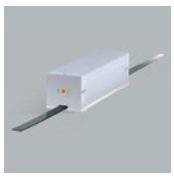
LINEPULS incremental magnetic sensors

		Dimensions (mm)	Connection		Resolution max. (µm)	Travel speed max. (m/s)	Push-Pull	Line Driver	1Vpp	Reference	Limit switches	Power supply (Vdc)	Operating temp. °C (°F) min. - max.	Protection max.
			connector	cable										
	**MT - MTS** Magnetic tape Incremental coding	MT: 10 MTS: 5 x 100 m max.	-	-	-	-	-	-	-	-	-	-	-40 +120 (-40 +248)	IP67
	**MRI/xxx** Magnetic rings Incremental coding	ø up to 1000	-	-	-	-	-	-	-	-	-	-	-40 +120 (-40 +248)	IP67
	**SMB2 - SMB5** Magnetic sensors External converter **Industrial**	25 x 15 x 8,5		•	1	16	•	•				+5 +10 +30	-25 +85 (-13 +185)	IP67
	**SME51** Magnetic sensor Status LED, wipers **Industrial**	40 x 25 x 10		•	5	16	•	•		•		+5 +10 +30	-25 +85 (-13 +185)	IP67
	**SME52** Magnetic sensor Status LED, wipers Limit switches **Industrial**	40 x 25 x 10		•	5	16	•	•		•	•	+5 +10 +30	-25 +85 (-13 +185)	IP67
	**SME21** Magnetic sensor Status LED, wipers **Industrial / Feedback**	40 x 25 x 10		•	1	16	•	•		•		+5 +10 +30	-25 +85 (-13 +185)	IP67
	**SME22** Magnetic sensor Status LED, wipers Limit switches **Industrial / Feedback**	40 x 25 x 10		•	1	16	•	•		•	•	+5 +10 +30	-25 +85 (-13 +185)	IP67
	**SME11** High performance sensor for linear motors Status LED, wipers **Feedback**	40 x 25 x 10		•	0,5	16	•	•		•		+5 +10 +30	-25 +85 (-13 +185)	IP67
	**SME12** High performance sensor for linear motors Status LED, wipers Limit switches **Feedback**	40 x 25 x 10		•	0,5	16	•	•		•	•	+5 +10 +30	-25 +85 (-13 +185)	IP67

LINEPULS incremental magnetic sensors

		Dimensions (mm)	Connection		Resolution max. (µm)	Travel speed max. (m/s)	Push-Pull	Line Driver	1Vpp	Reference	Limit switches	Power supply (Vdc)	Operating temp. °C (°F) min. - max.	Protection max.
			connector	cable										
	**SMS11** Magnetic sensor for linear motors Sine/cosine output **Feedback**	40 x 25 x 10		•	1000	16			•	•		+5	-25 +85 (-13 +185)	IP67
	**SMS12** Magnetic sensor for linear motors Sine/cosine output Limit switches **Feedback**	40 x 25 x 10		•	1000	16			•	•	•	+5	-25 +85 (-13 +185)	IP67
	**SMK** Robust magnetic sensor for standard applications **Heavy-duty**	40 x 25 x 10		•	10	2,5	•	•				+5 +10 +30	-25 +85 (-13 +185)	IP67
	**SML - SMH** Robust magnetic sensors for standard applications **Heavy-duty**	40 x 25 x 10		•	100	10	•	•				+5 +10 +30	-25 +85 (-13 +185)	IP67
	**SMX2 - SMX5** Magnetic speed sensors **Heavy-duty**	M10 x 30		•	5 mm (1.25) 2 mm (0.5)	30 (7,5 kHz)	•	•				+5 +30	-10 +70 (+14 +158)	IP67
	**SMSR** Miniature magnetic sensor for linear motors and pick & place applications **Feedback**	25 x 15 x 8,5		•	1000	10			•			+5	-25 +85 (-13 +185)	IP68
	**SMIG** Magnetic system with self-guiding sensor head **Heavy-duty**	80 x 48 x 28	•	•	5	1	•	•				+5 +10 +30	-25 +85 (-13 +185)	IP67

LINECOD absolute magnetic sensors

		Dimensions (mm)	Connection		Resolution max. (µm)	Travel speed max. (m/s)	SSI	BiSS	RS485	Profibus	CANopen	CANlift	Power supply (Vdc)	Operating temp. °C (°F) min. - max.	Protection max.
			connector	cable											
	**MTA1 - MTA5** Magnetic tape Absolute coding	20 x 5,1 m	-	-	-	-	-	-	-	-	-	-	-	-40 +120 (-40 +248)	IP67
	**SMA5** Compact magnetic sensor SSI interface **Industrial**	65 x 20 x 20		•	5	5	•						+10 +30	-25 +85 (-13 +185)	IP67
	**SMA1** Compact magnetic sensor BiSS + sin/cos interface **Feedback**	85 x 21 x 20		•	5	5	•	•					+10 +30	-25 +85 (-13 +185)	IP67
	**SMAG** Magnetic system with self-guiding sensor head **Heavy-duty**	80 x 48 x 28	•	•	5	1	•						+10 +30	-25 +85 (-13 +185)	IP65
	**SMAL** Magnetic sensor for long distances Elevators **Industrial**	190 x 52 x 45	•	•	1 mm	5	•		•	•	•	•	+10 +30	-25 +85 (-13 +185)	IP54
	**SMAL2** Magnetic sensor for long distances Elevators **Industrial**	147 x 100 x 60		•	0,1 mm	5	•		•		•	•	+10 +30	-25 +85 (-13 +185)	IP54

Intelligent rotary actuators
Designed to solve your positioning needs

More and more increasingly modern industries demand automated production processes with little downtimes to ensure optimum efficiency, provide precise control and repeatability, raise productivity and attain improvements in product quality. Meanwhile, the "large batch, long run" philosophy is becoming obsolete.
Today volatile demands call for quick responses. Small-batches, one-off items, just-in-time production and acceleration of cycle times often drive businesses.

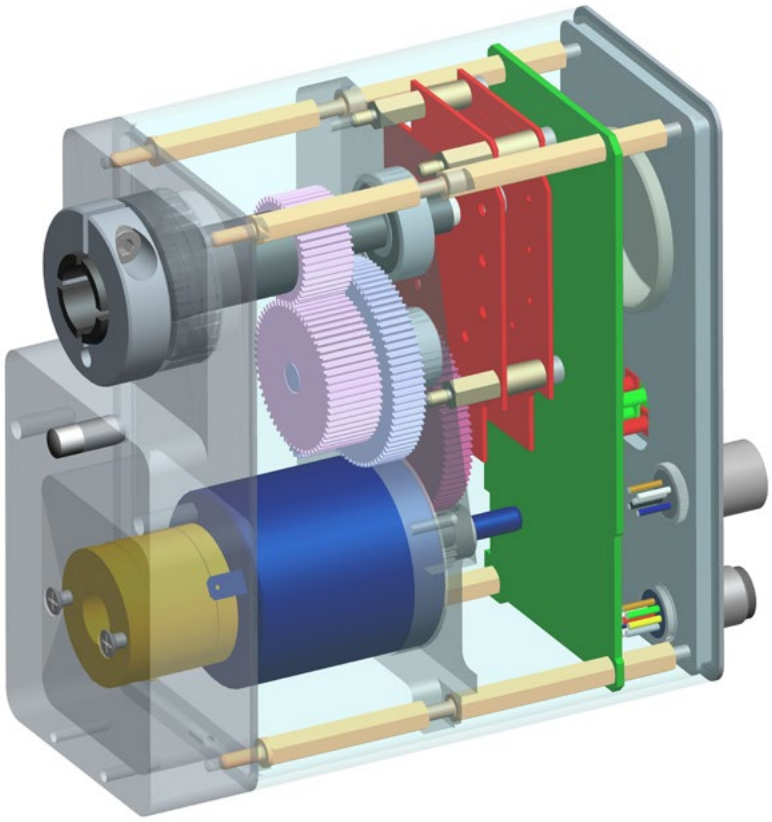
DRIVECOD series rotary actuators developed by Lika Electronic are the complete and cost-effective solution to help you solve these tasks. They are suitable **to drive positioning and auxiliary axes** and allow you to greatly reduce set-up and change-over times, in particular in multi-axis systems.
Furthermore they prevent operator errors that not seldom afflict the manual positioning operations.
Thus DRIVECOD positioning units afford increased flexibility and responsiveness and *make it possible to dramatically reduce the production costs ensuring maximum efficiency, speed in positioning along with the highest precision, extremely low downtimes, remarkably less waste material.*

DRIVECOD series intelligent actuators are designed to *fully integrate in a single package all of the components needed* to deliver performance and safety in any motion control tasks: BLDC brushless motor, absolute multiturn encoder, smart position controller and fieldbus interface. No additional tools are required such as external controllers, brakes, proximity switches, limit switches, transducers, etc. as the unit already encompasses the absolute encoder and, on request, the brake as well as the software limit and reference switch functions, among others. The "all-in-one" configuration further provides the user with considerable simplification in design and ease of integration in motorized axes.
RD series positioning units are offered with the most popular industrial fieldbus interfaces: Profibus-DP, CANopen and Modbus RTU RS485 and come in both industrial and heavy-duty constructions to meet the specific requirements of any application and environment.

DRIVECOD positioning units are suitable for use in a wide range of applications in any industrial sector such as in *mold changers, mobile stops, tools changers, filling and bottling machines, suction cups motion units, spindle positioning devices, conveyors, packaging & woodworking machineries, labelling machines, among others.*

DRIVECOD rotary actuators bring many valuable benefits, including:
- cut machine set-up time;
- reduce downtimes;
- allow tailor-made individual production;
- ensure precise repeatability;
- prevent operator errors and waste of material;
- enable the modernization of existing plants;
- ease installation and wiring;
- offer "all-in-one" advantage.

This means: **DRIVECODs produce effective machine utilization, maximize productivity, reduce costs.**



Compact and easily integrateable

Frame

The rugged anticorodal or die-cast aluminium housing is designed to improve protection and dependability.
It features small-footprint and space-saving design, thus it can be comfortably fitted into equipment with constrained and tight mounting space. Easy mounting characteristics increase flexibility due to the output hollow shaft made of stainless steel and available with diameters of 14 and 20 mm (0.55" and 0.79") according to model.
The adjustable collar and antirotation pin fitted with an elastomeric screw insulation provide both stability and mobility needed to absorb the mechanical loads being exerted on the bearings and the shaft during operation. The mounting assembly grants unparalleled quickness and ease of installation and does not require any expensive couplings or mounting flanges.
Even better it is exactly the same used for digital position indicators and handwheels widely installed in manual adjustable shafts, thus RD become the very profitable choice for modernizing existing systems. The degree of protection is up to IP65.

Rugged and high-performance

Motor

DRIVECOD rotary actuators are driven by sturdy 24VDC BLDC brushless motors capable of providing a nominal torque of up to 15 Nm and a starting torque of up to 30 Nm depending on models and gear ratios. Motors are compact, reliable and extremely durable and have up to 100 W. Power, accurate motion and safety are all under control thanks to the smart built-in position controller that enhances performance and flexibility at the highest levels.

Gear

The robust, compact size gearbox encompasses nitrided steel cogwheels built to last and is available in many ratios to suit a variety of torque requirements in specific applications.
RD4 model further offers a superior benefit: cogwheels are oil bath lubricated for enduring smooth, quiet and even continuous operation in heavy-duty environments and the toughest installations.

Intelligent and accurate

Encoder

The multiturn absolute encoder is installed on the output axis and therefore is not affected by any backlash errors of the gears. It provides accurate measuring information to the position controller.
It is offered with a resolution of 1024 singleturn x 1024 multiturn (20-bit) or 1024 singleturn x 256 multiturn (18-bit) according to series with a position accuracy of ±0,9°.
This allows for motion detection as well as position and directional indication within hundredths of a millimetre accuracy even on 5-mm pitch spindles!
Furthermore it is able to output the absolute position information even when the shaft is moved after the power is turned off for installations that require the safest positioning routines. It needs no battery.

Position controller

The controller, fully developed by Lika Electronic, integrates many state-of-the-art features for command and control operational functions.
Control operation is achieved through two cascade control loop cycles, the position loop cycle performed at every 1 ms and the current loop cycle performed at every 200 µs. The internal trajectory generator (boasting a 64-bit double precision) allows the operator to set a new target position even on-the-fly.
Controls on overtemperature, overcurrent, undervoltage and bus communication failure (because of a broken or disconnected cable or a faulty wiring) are further implemented to increase operational safety.

Versatile and open

Fieldbus interfaces

RD positioning units can be easily integrated into *fieldbus networks* in any kind of industrial automation system thanks to the wide range of fieldbus protocols implemented: **Profibus-DP, CANopen and Modbus RTU (RS485).**

Fieldbus technology permits to improve performance thanks to complete device interface (bi-directional data transmission, enhanced programmability, comprehensive diagnostic information), achieve communication transparency, simplify and standardize installations allowing several devices to be simply connected in the same network.

Service interface

RD1A and RD12A Profibus and CANopen models are further equipped with an additional service serial port for simplified configuration and management of the unit through Lika's programming software. Moreover the use of standardized bus cables provides an easier and safer connectivity thus saving time and money whilst reducing the risk of errors.

Programming software

To enhance interfaceability and ease programmability the sophisticated technology at the core of DRIVECODs is also accessible in specific models through an intuitively operated interface.
A programming software is expressly developed and released by Lika Electronic and can be used as an alternative to your own bus controller to offer simple and comfortable operation, whenever you need to set the working parameters of the actuator; control manually some movements and functions; and monitor its work cycles.
The program is supplied for free and can be installed in any PC fitted with a Windows operating system (Windows XP or later). Communication is achieved via USB serial interface. In this way user can easily and quickly programme, set up and start the positioning unit even before mounting at his convenience.
Connection cables (USB to RD) are available for every model.

Up-to-date and upgradable

Boot-loader feature

Today almost all models of Lika's RD positioning units offer a new noteworthy benefit.
The intelligent controller implements now the boot-loader feature which allows the operator to upgrade the DRIVECOD unit firmware by downloading upgrading data to the flash memory.
RD units are designed so that the firmware can be easily updated by the user himself.
This allows Lika Electronic to make new improved firmware programs available during the lifetime of the product.
Typical reasons for releasing a new firmware program include improving and even adding new functionalities to the device.
RD5x model implements the boot-loader feature via CAN.

Complete and reliable

Key features

RD positioning units further boast a large number of added-value benefits offered at no charge.
Just to give a mere cross section:

Centralized control
Actuators are centrally controlled through bus interfaces: a single command provides multiple precise adjustments in just one cycle and very short time.

Separated power supply
Control unit power supply is galvanically separated from motor power supply to enhance insulation and lines stability. Fieldbus can be operated when no power is provided to the motor.

General purpose I/Os
Up to three general purpose digital inputs and outputs are provided in specific models: they are useful to developers to have a handful of additional I/O resources available for the Master.

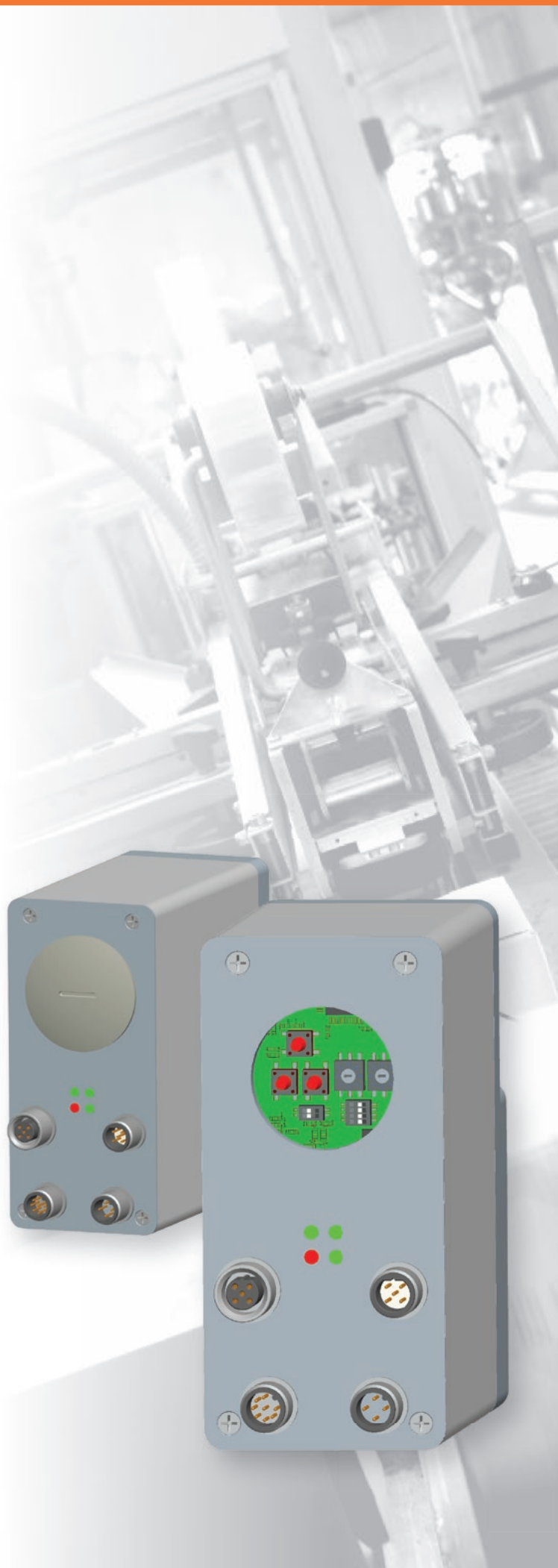
Preset & Jog buttons
Preset and Jog buttons are fitted in RD1xA model to manually move and calibrate the unit: no need for getting connection or engaging communication, just a push to take control.

Available commands
All models support both continuous jog command and incremental jog command (relative positioning).

Diagnostic LEDs
Diagnostic LEDs are meant to show visually the operating or fault status of both the device and the interface.

DIP switches
DIP switches are designed to hardware set the node ID, the baud rate and the termination resistance (when requested).

Integrated brake
RD12A and RD52 models are also equipped with an integrated brake. It is designed to activate as soon as the motor comes to a stop and safely protects the equipment from uncontrolled movements, especially in mobile stops and vertical axes.

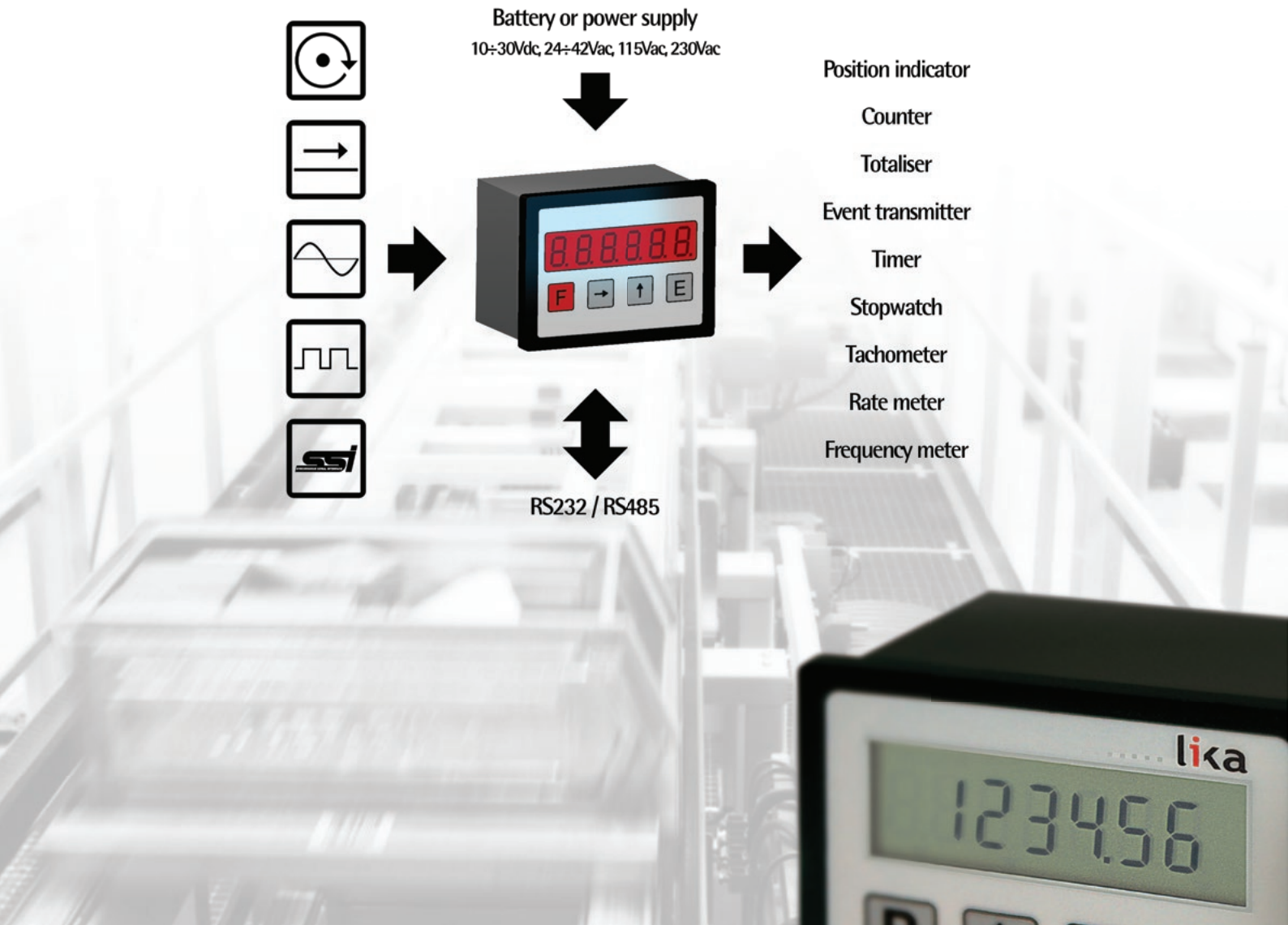


Displays for incremental & absolute encoders

Compact, easy-to-integrate and user-friendly.
Lika Electronic designs, manufactures and markets a wide range of multi-function electronic counters and position controllers with either **LCD or LED display.**
Whether you need to achieve information about distance, stroke, rotation, quantity and time or to monitor position, angle, speed, rate, frequency, **POSICONTROL displays offer the right solution for your any application.**
They are easy-to-read, simple and versatile, support multiple operating modes and are able to suit the most diverse requirements in any kind of transducer installation.

POSICONTROL display series provides a great deal of benefits:

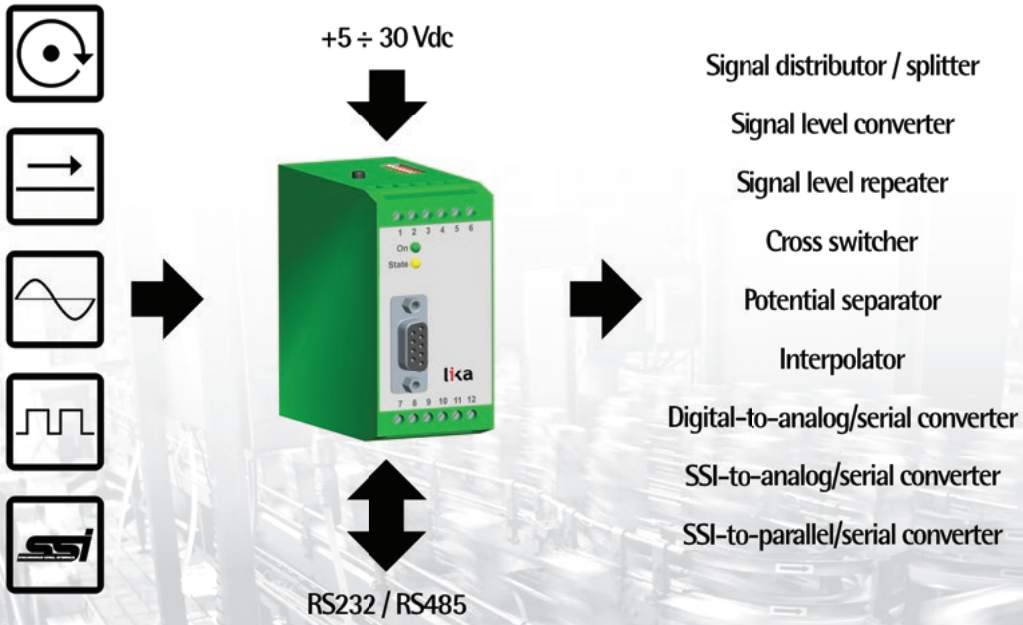
- Multi line up to 8-digit LED or LCD displays for simultaneous readout
- Crisp, clear visualisation with effective, eye-catching brightness
- Counting frequency up to 1 MHz
- Universal models for different devices and multi-purpose applications
- Dedicated parameters for either rotary encoders or linear sensors, incremental or absolute information
- Fully programmable (scaling factor, frequency, resolution, counting direction, preset, offset, filter, etc.) to best suit specific needs
- Extra functions such as linearisation, Teach-IN, security code and more
- Free outputs available



Comprehensive industrial communication & integration solutions

Nowadays a wide variety of data transmission types and interfaces is available to industrial processes.
There is nothing unusual that devices having different communication standards need to be installed and communicate in the same system, especially in existing industrial installations.
The need for integration of components with bad compatibility has recently grown and led both problems and costs to a significant increase.
To solve this matter today Lika Electronic has developed a comprehensive range of valuable and affordable solutions intended to meet a variety of practical and unique demands in encoder signal conversion, interpolation and transmission. Your advantage: no need for expensive replacements of equipment and cables, you can connect your varied automation components without any problems thus saving both time and money.
POSICONTROL interfaces are the efficient and low-cost industrial communication solutions designed to fulfil the integration requirements of your most diverse applications.
They always allow modern and outdated industrial devices to reliably and safely communicate in the same system.

- Versatile, reliable and universal units for your any incremental and absolute requirements in industrial applications
- Incremental to analogue; sin/cos to incremental; SSI to analogue; SSI to parallel and much more
- From most basic up to fully programmable modules (scaling factor, digital filtering, SSI settings, etc.)
- Extra functions such as linearisation and Teach-IN procedures
- Fibre-optic signal converters for both incremental and absolute encoders up to 1500 m (5,000 ft)
- DIN rail mounting



DRIVECOD
Rotary actuator

Series RD1A

- Integrated positioning unit
- High performance brushless motor
- RS232 service interface for easy setup
- Real absolute multi turn encoder
- Additional jog +/- buttons for easy calibration

RD1A

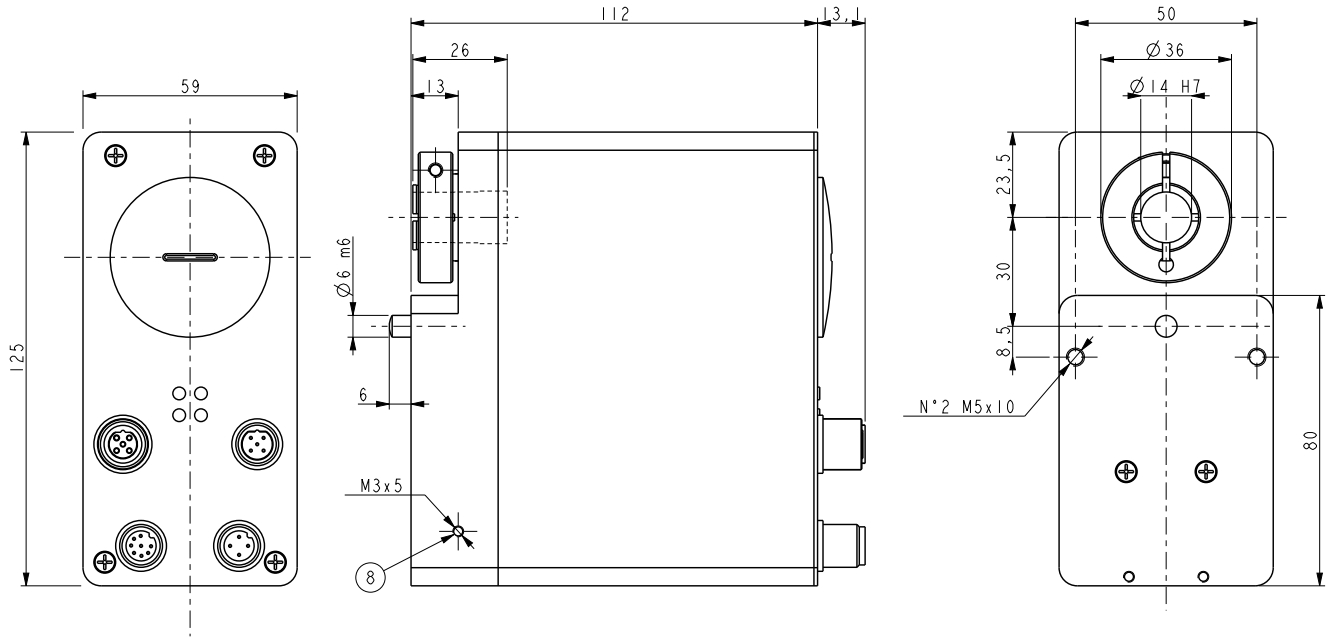
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +60°C (32°F +140°F)
Storage temperature range:	-20°C +80°C (-4°F +176°F) (98% R.H. without condensation)
Protection:	IP54

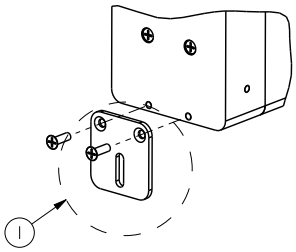
MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Shaft hollow:	Ø 14 mm
Shaft loading (axial and radial):	100 N, 200 N
Positioning accuracy:	± 0,9°
Electrical connections:	M12 connectors
Duty cycle:	20% ED
Torque and shaft rotational speed:	5 Nm @ 60 rpm (T48) 2,5 Nm @ 120 rpm (T24) 1,2 Nm @ 240 rpm (T12)
Starting torque:	T48: 12 Nm T24: 6 Nm T12: 3 Nm
Weight:	~ 1,8 kg (63,5 oz)

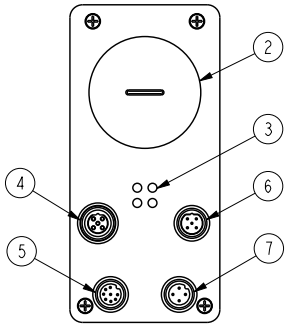
ELECTRICAL SPECIFICATIONS	
Resolution:	1024 inf./rev. x 1024 rev.
Power supply:	+24Vdc ± 10%
Power (motor):	31 W
Service interface:	RS232 (except Modbus RTU RS485)
Bus Interface:	Profibus-DP, CANopen, Modbus RTU (RS485)
Inputs:	3 x 24V
Output:	1 x o.c @ 100 mA

MATERIALS	
Flange:	non corroding, UNI EN AW-6082
Housing:	non corroding, UNI EN AW-6082
Bearings:	ABEC 5
Shaft:	stainless steel non-magnetic, UNI EN 1.4305
Motor:	high performance brushless motor

ACCESSORIES	
CC-RD-PB:	Profibus mating connectors
EC-M12MP-LK-PB-5:	PB cordset M12 male conn., 5 m cable
EC-M12FP-LK-PB-5:	PB cordset M12 female conn., 5 m cable
EC-M12FC-S37-P3-5:	Cordset M12 power supply, 5 m cable
CC-RD-CB/MB:	CANopen/Modbus mating connectors
EC-M12MC-LK-CB-5:	CB/MB cordset M12 male conn., 5 m cable
EC-M12FC-LK-CB-5:	CB/MB cordset M12 female conn., 5 m cable
E-M12F8:	M12 8 pin conn. for RS232 & I/O's
E-M12FC:	M12 conn. for power supply
EXC-M12F8-LK-0,5-D9F-S51:	Connection cable RDxx to RS232 (PC)
EXC-USB4-S54-GN-2-M12MC-S54:	Connection cable RDxx Modbus to USB/PC







1	Fixing plate
2	Dip switch Jog +/- button access
3	Diagnostic leds
4	M12 5 pin connector BUS OUT
5	M12 8 pin plug, Service interface, I/Os
6	M12 5 pin plug BUS IN
7	M12 4 pin plug power supply
8	GND connection

Order code

RD1A	-	X ⓐ	-	XXX ⓑ	-	XX ⓒ	-	XX ⓓ	-	X ⓔ

ⓐ **POWER SUPPLY**
P8 = 24Vdc ± 10%

ⓑ **TORQUE/SHAFT ROTATIONAL SPEED**
T48 = 5 Nm @ 60 rpm
T24 = 2,5 Nm @ 120 rpm
T12 = 1,2 Nm @ 240 rpm

ⓒ **INTERFACE**
CB = CANopen (DS301)
PB = Profibus-DP
MB = Modbus RTU (RS485)

ⓓ **ENCODER**
E2 = Absolute, 1024 inf./rev. x 1024 rev.

ⓔ **CONNECTIONS**
M = M12 connectors

DRIVECOD
Rotary actuator with halt brake

Series RD12A

- Integrated positioning unit
- High performance brushless motor
- RS232 service interface for easy setup
- Real absolute multi turn encoder
- Integrated motor brake for enhanced halt functions
- Additional jog +/- buttons for easy calibration

RD12A

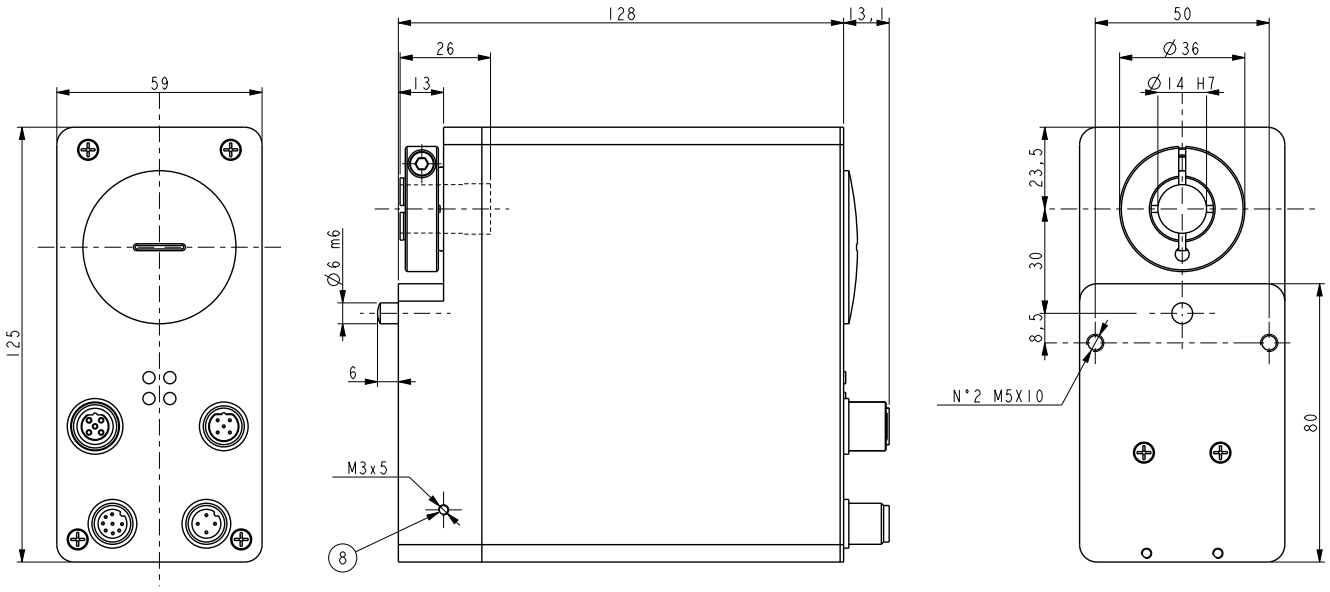
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +60°C (32°F +140°F)
Storage temperature range:	-20°C +80°C (-4°F +176°F) (98% R.H. without condensation)
Protection:	IP54

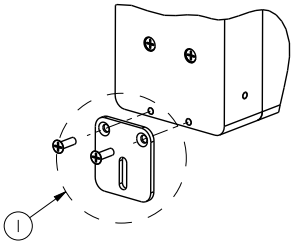
MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Shaft hollow:	Ø 14 mm
Shaft loading (axial and radial):	100 N, 200 N
Positioning accuracy:	± 0,9°
Electrical connections:	M12 connectors
Duty cycle:	20% ED
Torque and shaft rotational speed:	5 Nm @ 60 rpm (T48) 2,5 Nm @ 120 rpm (T24) 1,2 Nm @ 240 rpm (T12)
Starting torque:	T48: 12 Nm T24: 6 Nm T12: 3 Nm
Hold force with activated brake:	T48: 17 Nm T24: 8,5 Nm T12: 4,2 Nm
Weight:	~ 2,1 kg (74,1 oz)

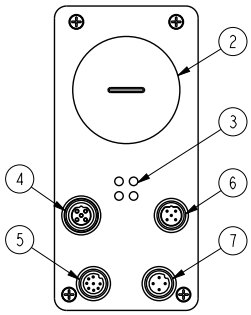
ELECTRICAL SPECIFICATIONS	
Resolution:	1024 inf./rev. x 1024 rev.
Power supply:	+24Vdc ± 10%
Power (motor):	31 W
Service interface:	RS232 (except Modbus RTU RS485)
Bus Interface:	Profibus-DP, CANopen, Modbus RTU (RS485)
Inputs:	3 x 24V
Output:	1 x o.c @ 100 mA

MATERIALS	
Flange:	non corroding, UNI EN AW-6082
Housing:	non corroding, UNI EN AW-6082
Bearings:	ABEC 5
Shaft:	stainless steel non-magnetic, UNI EN 1.4305
Motor:	high performance brushless motor
Brake:	electromagnetic brake

ACCESSORIES	
CC-RD-PB:	Profibus mating connectors
EC-M12MP-LK-PB-5:	PB cordset M12 male conn., 5 m cable
EC-M12FP-LK-PB-5:	PB cordset M12 female conn., 5 m cable
EC-M12FC-S37-P3-5:	Cordset M12 power supply, 5 m cable
CC-RD-CB/MB:	CANopen/Modbus mating connectors
EC-M12MC-LK-CB-5:	CB/MB cordset M12 male conn., 5 m cable
EC-M12FC-LK-CB-5:	CB/MB cordset M12 female conn., 5 m cable
E-M12F8:	M12 8 pin conn. for RS232 & I/O's
E-M12FC:	M12 conn. for power supply
EXC-M12F8-LK-0,5-D9F-S51:	Connection cable RDxx to RS232 (PC)
EXC-USB4-S54-GN-2-M12MC-S54:	Connection cable RDxx Modbus to USB/PC







1	Fixing plate
2	Dip switch Jog +/- button access
3	Diagnostic leds
4	M12 5 pin connector BUS OUT
5	M12 8 pin plug, Service interface, I/Os
6	M12 5 pin plug BUS IN
7	M12 4 pin plug power supply
8	GND connection

RD12A

Order code

RD12A	-	X ⓐ	-	XXX ⓑ	-	XX ⓒ	-	XX ⓓ	-	X ⓔ

ⓐ **POWER SUPPLY**
P8 = 24Vdc ± 10%

ⓑ **TORQUE/SHAFT ROTATIONAL SPEED**
T48 = 5 Nm @ 60 rpm
T24 = 2,5 Nm @ 120 rpm
T12 = 1,2 Nm @ 240 rpm

ⓒ **INTERFACE**
CB = CANopen (DS301)
PB = Profibus-DP
MB = Modbus RTU (RS485)

ⓓ **ENCODER**
E2 = Absolute, 1024 inf./rev. x 1024 rev.

ⓔ **CONNECTIONS**
M = M12 connectors

DRIVECOD

Compact rotary actuators with halt brake

Series **RD5 • RD52**

- Compact positioning unit for secondary axes
- Integrated drive, position controller & encoder
- Closed loop position control
- Absolute multi turn encoder
- RD52 with integrated motor brake
- M12 connections
- Boot loader via CAN

RD5 - RD52

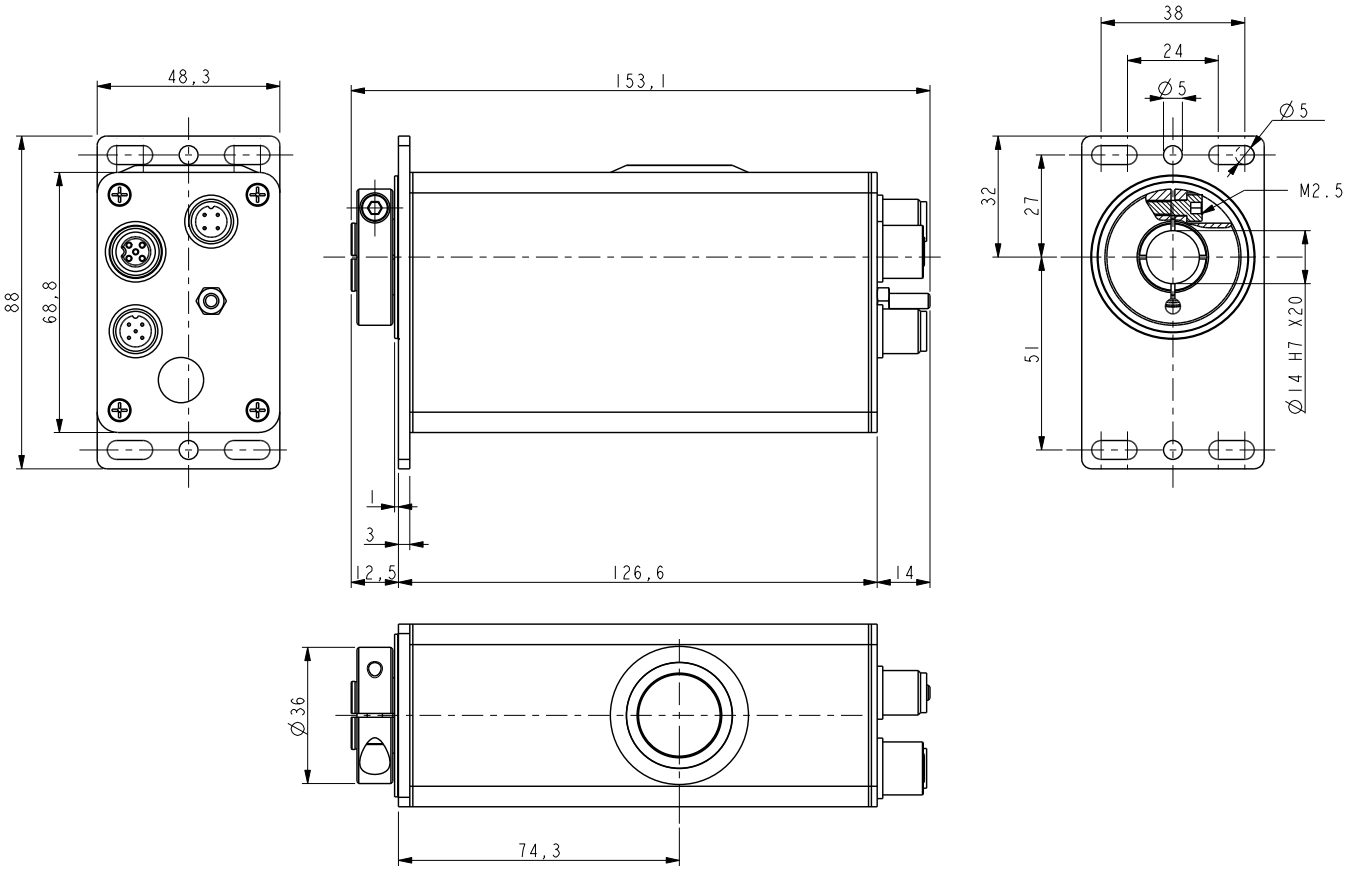
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +60°C (32°F +140°F)
Storage temperature range:	-20°C +80°C (-4°F +176°F) (98% R.H. without condensation)
Protection:	IP54

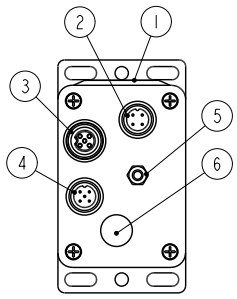
MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Shaft hollow:	Ø 14 mm
Shaft loading (axial and radial):	50 N max.
Positioning accuracy:	± 0,9°
Electrical connections:	3 x M12 connectors
Duty cycle:	RD5: 70% ED, 300 s (without brake) RD52: 45% ED, 300 s (with brake)
Torque and shaft rotational speed:	5 Nm @ 60 rpm
Starting torque:	12 Nm
Hold force with activated brake:	10 Nm
Weight:	~ 1 kg (35.2 oz)

ELECTRICAL SPECIFICATIONS	
Resolution:	1024 inf./rev. x 256 rev.
Power supply:	+24Vdc ± 10%
Power (motor):	31 W
Input current:	motor: ~1.6A nominal, ~2A max. control unit: 80 mA max. (RD5) 480 mA max. (RD52)
Bus Interface:	Profibus-DP, CANopen, Modbus RTU (RS485)
Protection:	against overcurrent and overtemperature

MATERIALS	
Flanges:	die cast alluminium, UNI EN AC-46100
Housing:	die cast alluminium, UNI EN AC-46100
Bearings:	ABEC 5
Shaft/Fixing clamp:	stainless steel non-magnetic, UNI EN 4305
Motor:	high performance brushless motor
Brake:	solenoid hold brake

ACCESSORIES	
CC-RD-PB:	Profibus mating connectors
EC-M12MP-LK-PB-5:	PB cordset M12 male conn., 5 m cable
EC-M12FP-LK-PB-5:	PB cordset M12 female conn., 5 m cable
EC-M12FC-S37-P3-5:	Cordset M12 power supply, 5 m cable
CC-RD-CB/MB:	CANopen/Modbus mating connectors
EC-M12MC-LK-CB-5:	CB/MB cordset M12 male conn., 5 m cable
EC-M12FC-LK-CB-5:	CB/MB cordset M12 female conn., 5 m cable
E-M12FC:	M12 conn. for power supply
EXC-USB4-S54-GN-2-M12MC-S54:	Connection cable RDxx Modbus to USB/PC





1 = Dip switch access, diagnostic LEDs
2 = Power supply connector
3 = Bus OUT connector
4 = Bus IN connector
5 = GND connection screw
6 = Magnet position for manual brake release

RD5 - RD52

Order code

RD5 RD52	-	X ⓐ	-	XXX ⓑ	-	XX ⓒ	-	XX ⓓ	-	X ⓔ

ⓐ **POWER SUPPLY**
P8 = 24Vdc ± 10%

ⓑ **TORQUE/SHAFT ROTATIONAL SPEED**
T50 = 5 Nm @ 60 rpm

ⓒ **INTERFACE**
CB = CANopen (DS301)
PB = Profibus-DP
MB = Modbus RTU (RS485)

ⓓ **ENCODER**
E3 = Absolute, 1024 inf./rev. x 256 rev.

ⓔ **CONNECTIONS**
M = M12 connectors

DRIVECOD
Heavy-duty rotary actuator

Series **RD4**

- Heavy-duty rotary actuator for secondary axes
- Integrated drive, position controller & encoder
- Closed loop position control
- Starting torque from 24 to 30 Nm, rated torque from 10 to 15 Nm
- 20 bit real absolute encoder
- Oil bath gearbox for continuous operation

RD4

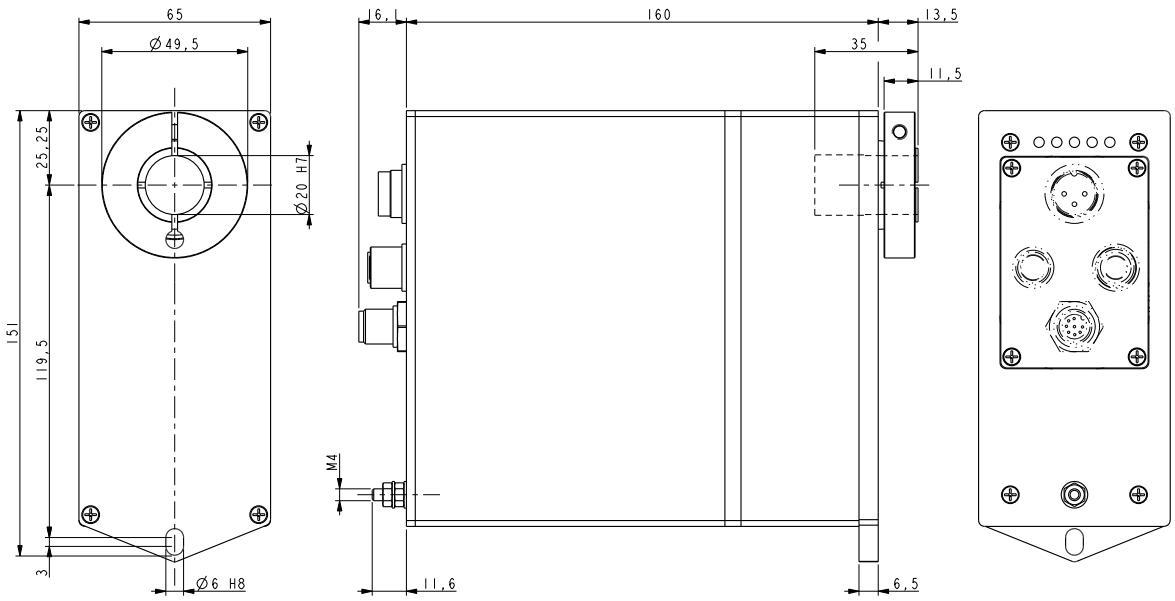
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +60°C (32°F +140°F)
Storage temperature range:	-20°C +80°C (-4°F +176°F) (98% R.H. without condensation)
Protection:	IP54

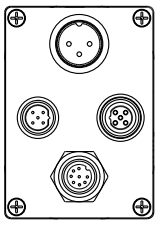
MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Shaft hollow:	Ø 20 mm
Shaft loading (axial and radial):	100 N, 200 N
Positioning accuracy:	± 0,9°
Electrical connections:	M12 connectors
Duty cycle:	50% ED
Torque and shaft rotational speed:	T32: 10 Nm @ 94 rpm / 6 Nm with continuous duty T47: 15 Nm @ 63 rpm / 8 Nm with continuous duty
Starting torque:	T32: 24 Nm T47: 30 Nm
Weight:	~ 2,8 kg (98,7 oz)

ELECTRICAL SPECIFICATIONS	
Resolution:	1024 inf./rev. x 1024 rev.
Power supply:	+24Vdc ± 10%
Power (motor):	100 W
Input current:	motor: 6,5 A max. control unit: 75 mA max.
Bus Interface:	Profibus-DP, CANopen (DS301), Modbus RTU (RS485)
Inputs:	3 x 24V
Output:	3 x o.c @ 100 mA

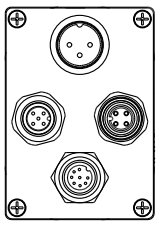
MATERIALS	
Flange:	non corroding, UNI EN AW-6082
Housing:	non corroding, UNI EN AW-6082
Bearings:	ABEC 5
Shaft:	stainless steel non-magnetic, UNI EN 1.4305
Motor:	high performance brushless motor

ACCESSORIES	
CC-RD4-PB:	Profibus mating connectors
EC-M12MP-LK-PB-5:	PB cordset M12 male conn., 5 m cable
EC-M12FP-LK-PB-5:	PB cordset M12 female conn., 5 m cable
EC-M163F-S37-P3-5:	Cordset M16 power supply, 5 m cable
CC-RD4-CB/MB:	CANopen/Modbus mating connectors
EC-M12MC-LK-CB-5:	CB/MB cordset M12 male conn., 5 m cable
EC-M12FC-LK-CB-5:	CB/MB cordset M12 female conn., 5 m cable
E-M12F8:	M12 8 pin conn. for I/O's
E-M163F:	M16 conn. for power supply
EXC-USB4-S54-GN-2-M12MC-S54:	Connection cable RDxx Modbus to USB/PC





Profibus



Canbus - Modbus

Order code

RD4	-	X ⓐ	-	XXX ⓑ	-	XX ⓒ	-	XX ⓓ	-	X ⓔ

ⓐ **POWER SUPPLY**
P8 = 24Vdc ± 10%

ⓑ **TORQUE/SHAFT ROTATIONAL SPEED**
T32 = 10 Nm @ 94 rpm
T47 = 15 Nm @ 63 rpm

ⓒ **INTERFACE**
CB = CANopen (DS301)
PB = Profibus-DP
MB = Modbus RTU (RS485)

ⓓ **ENCODER**
E2 = Absolute, 1024 inf./rev. x 1024 rev.

ⓔ **CONNECTIONS**
M = M12 connectors

POSICONTROL
Incremental LED display for magnetic sensors

Series **LD120**

- Compact 5 digit LED display
- Max. display accuracy 0,01 mm
- Actual value memory
- Panel mount housing
- Reading distance sensor/tape up to 2 mm
- RS485 interface
- 5V backup input
- Works with SM5 magnetic sensors

LD120

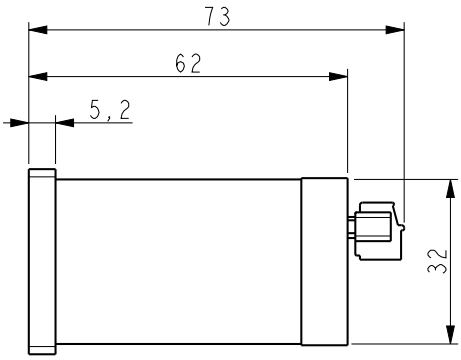
PARAMETERS
3 offset values, Preset value, mm/inch display, Relative/absolute measurement

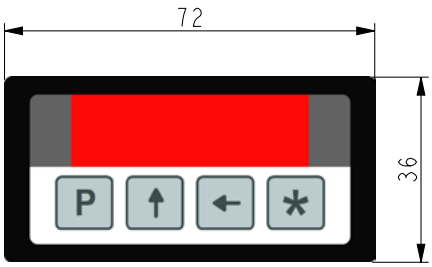
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C to +50°C (+32°F to +122°F)
Storage temperature range:	-20°C to +80°C (-4°F to +176°F)
Protection:	IP60 front, IP40 back

MECHANICAL SPECIFICATIONS	
Display resolution:	max. 0,01 mm
System accuracy:	± 0,05 mm typ.
Repeat accuracy:	± 1 digit
Display range:	-99999 to 99999
Measurement speed:	max. 5 m/s
Magnetic sensor:	SM5 (connectable)
Reading distance sensor/tape:	0,1 - 2,0 mm
Dimensions:	see drawing
Cut out:	68 x 33 mm^2
Connections:	Terminal strip MiniDIN for sensor

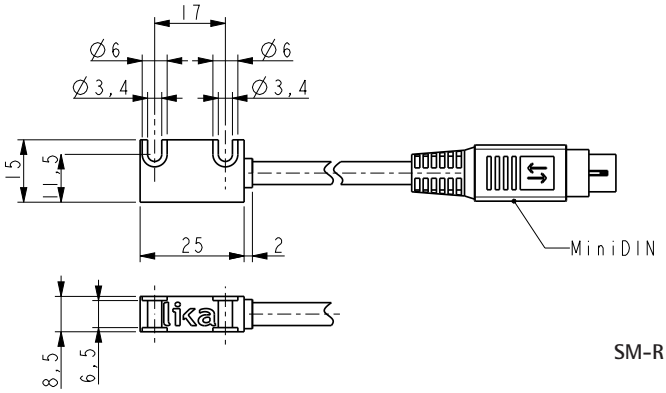
ELECTRICAL SPECIFICATIONS	
Power supply:	+10Vdc ÷ +30Vdc
Consumption:	800 mW, 100 mW backup mode
Interface:	RS485 (optional)

ACCESSORIES	
SM5:	Magnetic sensor
MT50:	Magnetic tape
PS1:	Protection profile

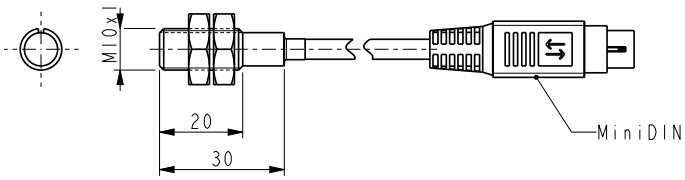




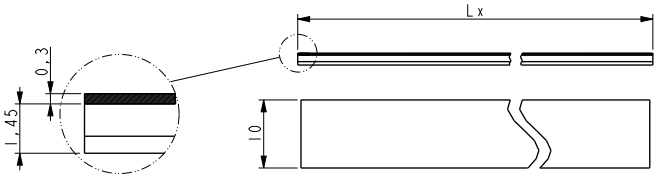
LD120



SM-R



SM-C



MT50

Order code - Display

LD120	-	XX ⓐ	-	XX ⓑ

ⓐ INPUT	ⓑ INTERFACE
M7 = magnetic sensor	**I4** = RS485

Order code - Sensor

SM5	-	X ⓐ	XX ⓑ

ⓐ SENSOR	ⓑ CABLE LENGTH
R = rectangular	**2** = cable 2 meters
C = circular	**X** = cable X meters (10 meters max.)

Order code - Tape

MT50	-	XX ⓐ	-	XXX ⓑ	-	X ⓒ

ⓐ LENGTH	ⓑ ACCURACY CLASS	ⓑ COVER STRIP
1 = 1,0 m	**100** = ± 85 µm/m	**1** = included
2 = 2,0 m	**50** = ± 35 µm/m (up to 30 m)	
4 = 4,0 m		
10 = 10,0 m		
20 = 20,0 m		
30 = 30,0 m		

POSICONTROL

Battery powered LCD display with magnetic sensor

Series	LD112

- Quasi-absolute LCD display
- Max. display accuracy 0,01 mm or 1/64 inch
- Actual value memory
- Linear and Angular display mode
- Panel mount housing
- Reading distance sensor/tape up to 1 mm

LD112

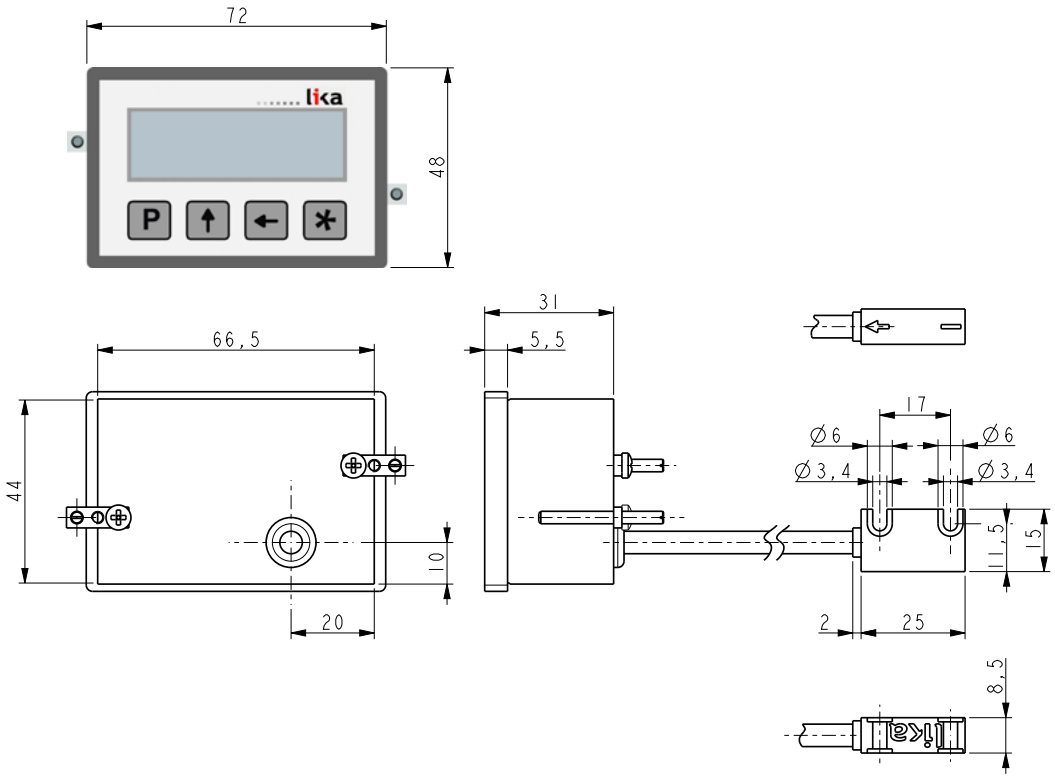
PARAMETERS
3 offset values, Preset value, Linear and angular display mode, mm/inch display, Relative/absolute measurement

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C to +50°C (+32°F to +122°F)
Storage temperature range:	-20°C to +80°C (-4°F to +176°F)
Protection:	IP60 front, IP40 back

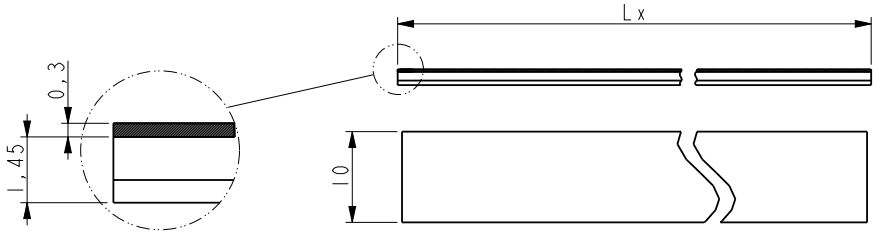
MECHANICAL SPECIFICATIONS	
Display resolution:	max. 0,01 mm or 1/64 inch
System accuracy:	± 0,05 mm typ.
Repeat accuracy:	± 1 digit
Display range:	-999999 to 999999
Measurement speed:	max. 5 m/s
Magnetic sensor:	SM25
Reading distance sensor/tape:	0,1 - 1,0 mm
Dimensions:	see drawing
Cut out:	67,5 x 45 mm²
Connections:	Battery holder (AAA type) Cable for sensor

ELECTRICAL SPECIFICATIONS	
Power supply:	Integrated batteries (2 x 1,5V)
Consumption:	220 µA

ACCESSORIES	
MT25:	Magnetic tape



LD112



MT25

Order code - Display

LD112	-	XX ⓐ	X ⓑ	XX ⓒ

ⓐ INPUT	ⓑ SENSOR	ⓒ CABLE LENGTH
M7 = magnetic sensor	**R** = rectangular	**0,2** = cable 0,2 meters **1** = cable 1 meter **X** = cable X meters (5 meters max.)

Order code - Tape

MT25	-	XX ⓐ	-	XXX ⓑ	-	X ⓒ

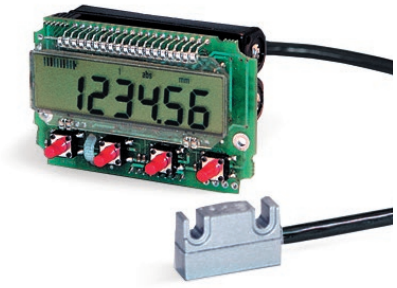
ⓐ LENGTH	ⓑ ACCURACY CLASS	ⓑ COVER STRIP
1 = 1,0 m **2** = 2,0 m **4** = 4,0 m **10** = 10,0 m **20** = 20,0 m **30** = 30,0 m	**100** = ± 85 µm/m **50** = ± 35 µm/m (up to 30 m)	**1** = included

POSICONTROL

Battery powered LCD display with magnetic sensor for OEM applications

Series	LD111

- Quasi-absolute LCD display
- Max. display accuracy 0,01 mm or 1/64 inch
- Actual value memory
- Linear and Angular display mode
- Compact OEM version without housing
- Reading distance sensor/tape up to 1 mm



LD111

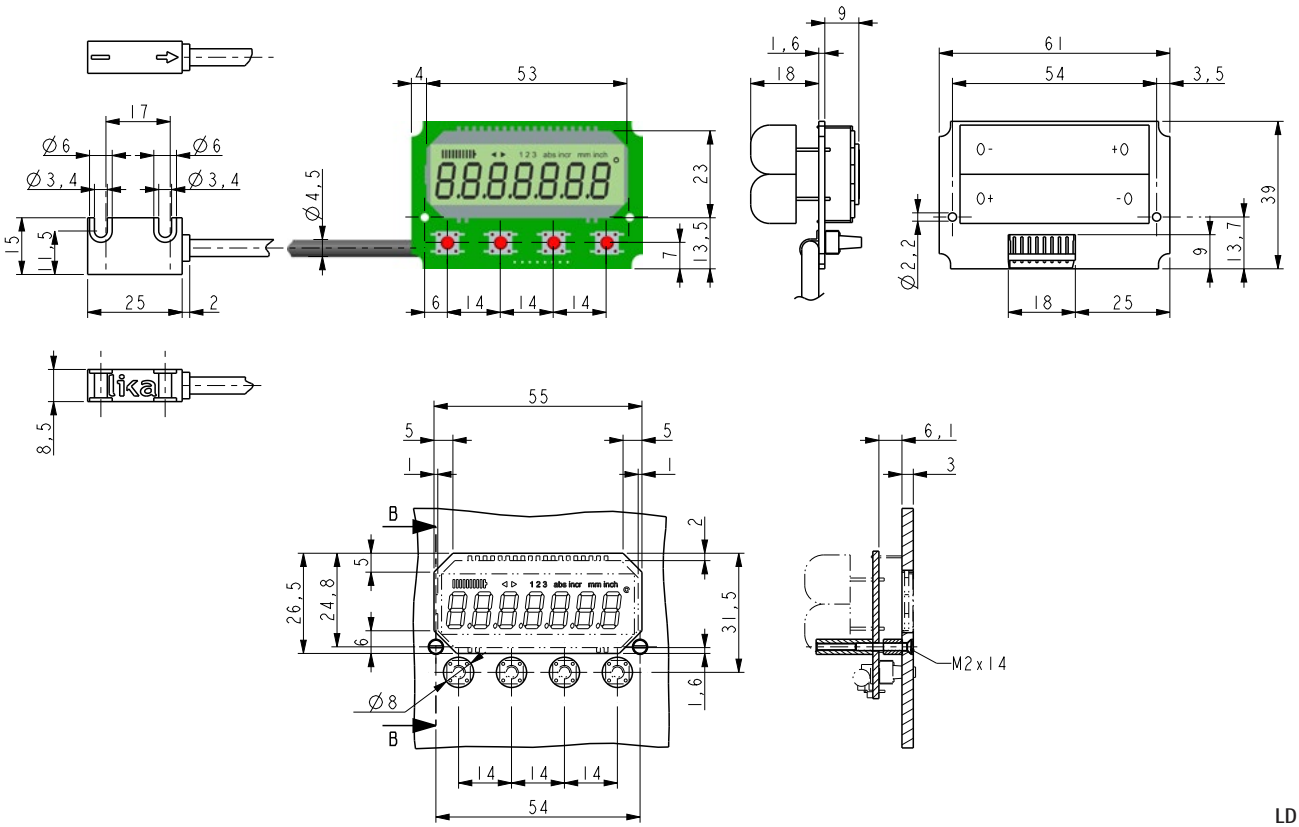
PARAMETERS
3 offset values, Preset value, Linear & angular display mode, mm/inch display, Relative/absolute measurement

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C to +50°C (+32°F to +122°F)
Storage temperature range:	-20°C to +80°C (-4°F to +176°F)
Protection:	IP00 (or depending on customers assembly)

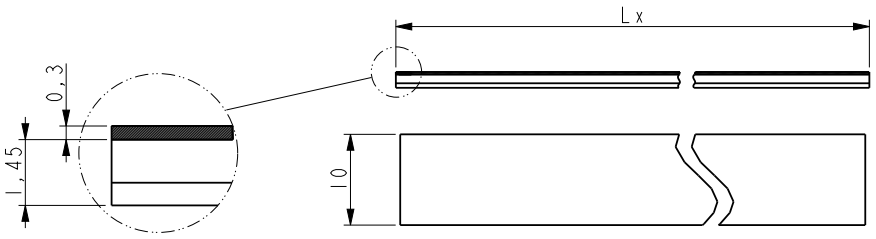
MECHANICAL SPECIFICATIONS	
Display resolution:	max. 0,01 mm or 1/64 inch
System accuracy:	± 0,05 mm typ.
Repeat accuracy:	± 1 digit
Display range:	-999999 to 999999
Measurement speed:	max. 5 m/s
Magnetic sensor:	SM25
Reading distance sensor/tape:	0,1 - 1,0 mm
Dimensions:	see drawing
Connections:	Battery holder (AAA type) Cable (sensor)

ELECTRICAL SPECIFICATIONS	
Power supply:	Integrated batteries (2 x 1,5 V)
Consumption:	~ 220 µA

ACCESSORIES	
MT25:	Magnetic tape



LD111



MT25

Order code - Display

LD111	-	XX ⓐ	X ⓑ	XX ⓒ

ⓐ INPUT	ⓑ SENSOR	ⓒ CABLE LENGTH
M7 = magnetic sensor	**R** = rectangular	**0,2** = cable 0,2 meter **1** = cable 1 meter **X** = cable X meters (5 meters max.)

Order code - Tape

MT25	-	XX ⓐ	-	XXX ⓑ	-	X ⓒ

ⓐ LENGTH	ⓑ ACCURACY CLASS	ⓑ COVER STRIP
1 = 1,0 m **2** = 2,0 m **4** = 4,0 m **10** = 10,0 m **20** = 20,0 m **30** = 30,0 m	**100** = ± 85 µm/m **50** = ± 35 µm/m (up to 30 m)	**1** = included

POSICONTROL

Battery powered LCD display with magnetic sensor for OEM applications

Series	LD141

- Quasi-absolute LCD display, 14 mm height
- Max. display accuracy 0,01 mm or 1/64 inch
- Actual value memory
- Linear & Angular display mode
- Compact OEM version without housing
- Reading distance sensor/tape up to 1 mm
- RS232 interface (optional)

LD141

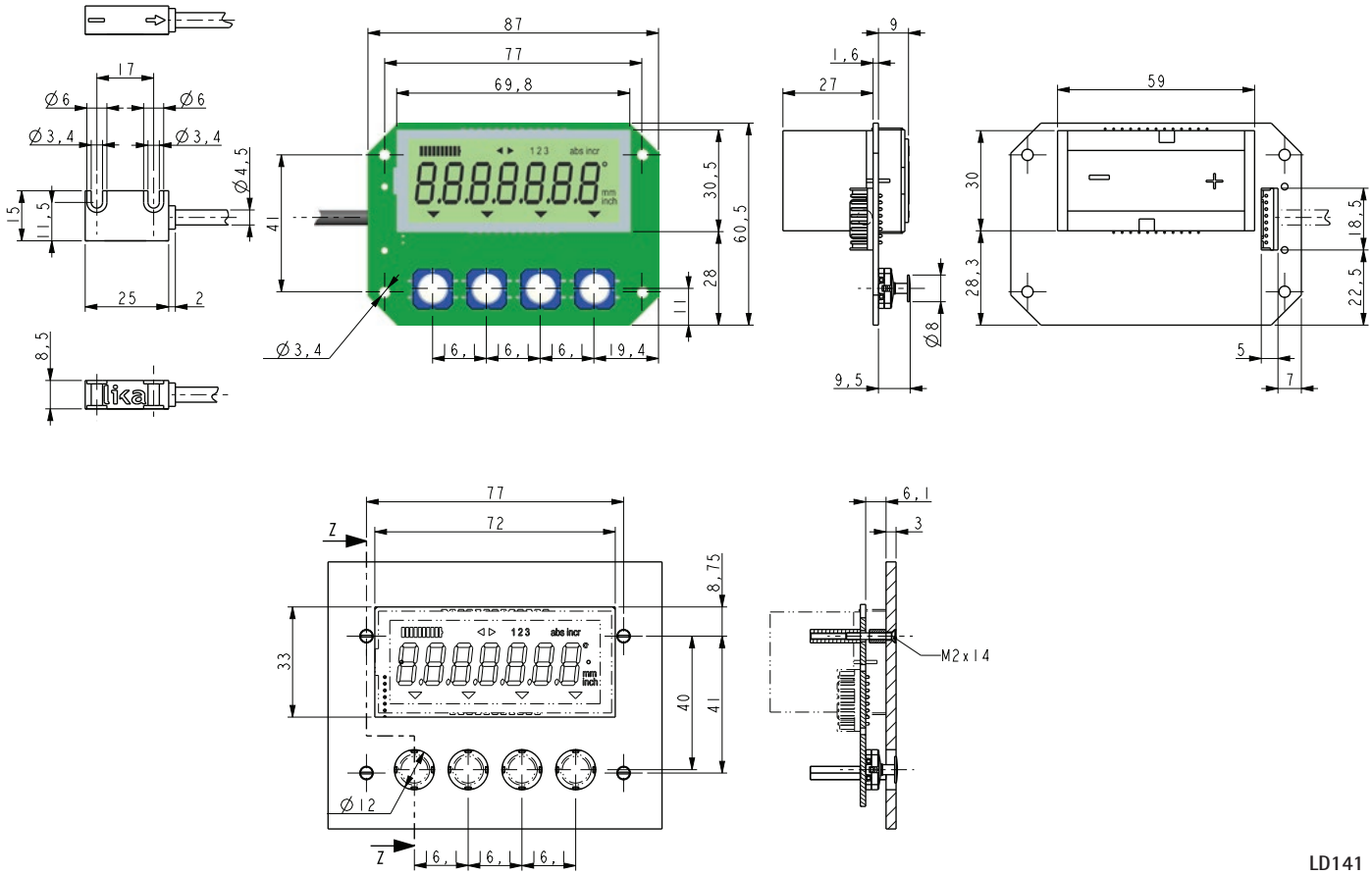
PARAMETERS
3 offset values, Preset value, Linear and angular display mode, mm & fractional inch display, Relative/absolute measurement

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C to +50°C (+32°F to +122°F)
Storage temperature range:	-20°C to +80°C (-4°F to +176°F)
Protection:	IP00 (or depending on customers assembly)

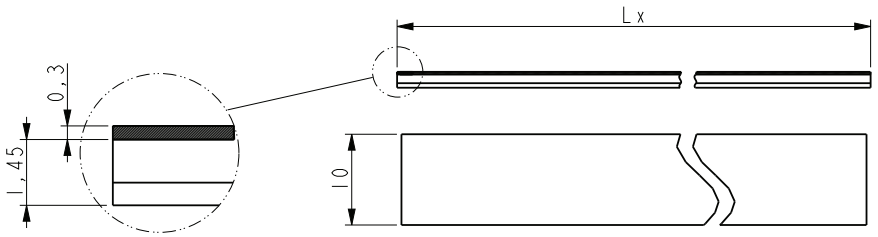
MECHANICAL SPECIFICATIONS	
Display resolution:	max. 0,01 mm or 1/64 inch
System accuracy:	± 0,05 mm typ.
Repeat accuracy:	± 1 digit
Display range:	-999999 to 999999
Measurement speed:	max. 5 m/s
Magnetic sensor:	SM25
Reading distance sensor/tape:	0,1 - 1,0 mm
Dimensions:	see drawing
Connections:	Battery holder (AAA type) Cable (sensor) DSub 9 pin (RS232)

ELECTRICAL SPECIFICATIONS	
Power supply:	Integrated batteries (2 x 1,5V)
Consumption:	~ 700 µA
Interface:	RS232 (optional)

ACCESSORIES	
MT25:	Magnetic tape



LD141



MT25

Order code - Display

LD141	-	XX ⓐ	X ⓑ	XX ⓒ	-	XX ⓓ

ⓐ **INPUT**
M7 = magnetic sensor

ⓑ **SENSOR**
R = rectangular

ⓒ **CABLE LENGTH**
0,2 = cable 0,2 meters
1 = cable 1 meter
X = cable X meters (5 meters max.)

ⓓ **INTERFACE**
I1 = RS232

Order code - Tape

MT25	-	XX ⓐ	-	XXX ⓑ	-	X ⓒ

ⓐ **LENGTH**
1 = 1,0 m
2 = 2,0 m
4 = 4,0 m
10 = 10,0 m
20 = 20,0 m
30 = 30,0 m

ⓑ **ACCURACY CLASS**
100 = ± 85 µm/m
50 = ± 35 µm/m (up to 30 m)

ⓑ **COVER STRIP**
1 = included

POSICONTROL

Battery powered LCD display with magnetic sensor

Series **LD140 • LD142**

- Quasi-absolute LCD display, 14 mm height
- Max. display accuracy 0,01 mm or 1/64 inch
- Actual value memory
- Linear & Angular display mode
- Panel mount housing
- Fixed or pluggable sensor
- Reading distance sensor/tape up to 1 mm
- RS232 interface (optional)

LD140

PARAMETERS
3 offset values, Preset value, Linear and angular display mode, mm & fractional inch display, Relative/absolute measurement

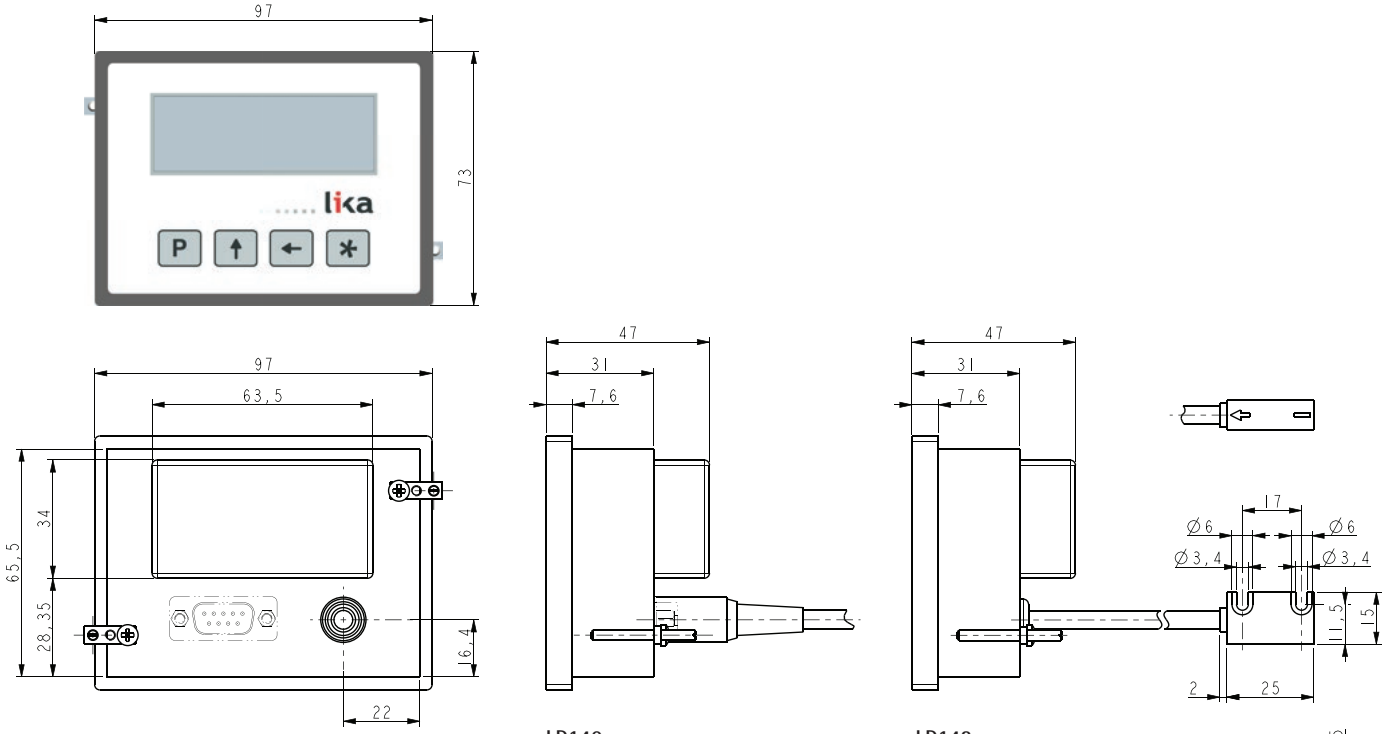
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C to +50°C (+32°F to +122°F)
Storage temperature range:	-20°C to +80°C (-4°F to +176°F)
Protection:	IP60 front, IP40 back

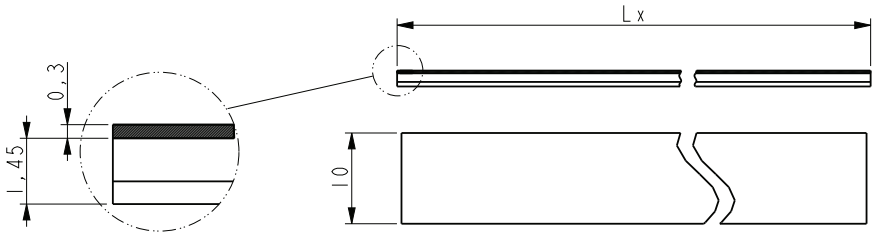
MECHANICAL SPECIFICATIONS	
Display resolution:	max. 0,01 mm or 1/64 inch
System accuracy:	± 0,05 mm typ.
Repeat accuracy:	± 1 digit
Display range:	-999999 to 999999
Measurement speed:	max. 5 m/s
Magnetic sensor:	SM25
Reading distance sensor/tape:	0,1 - 1,0 mm
Dimensions:	see drawing
Cut-out:	91,5 x 67,5 mm^2
Connections:	Battery holder (AAA type) Cable (sensor) DSub 9 pin (RS232)

ELECTRICAL SPECIFICATIONS	
Power supply:	Integrated 1,5V battery
Consumption:	~ 700 µA
Interface:	RS232 (optional)

ACCESSORIES	
SM25:	Magnetic sensor
MT25:	Magnetic tape
PF4012:	Fixing support

Specifications subject to changes without prior notice





MT25

Order code - Display

LD140	-	XX ⓐ	-	XX ⓑ

ⓐ **INPUT**
M7 = magnetic sensor

ⓑ **INTERFACE**
I1 = RS232

Order code - Display

LD142	-	XX ⓐ	X ⓑ	XX ⓒ	-	XX ⓓ

ⓐ **INPUT**
M7 = magnetic sensor

ⓑ **SENSOR**
R = rectangular

ⓒ **CABLE LENGTH**
0,2 = cable 0,2 m
X = cable X meters
(5 meters max.)

ⓓ **INTERFACE**
I1 = RS232

Order code - Sensor

SM25	-	R ⓐ	XX ⓑ

ⓐ **SENSOR**
R = rectangular

ⓑ **CABLE LENGTH**
0,2 = cable 0,2 meter
1 = cable 1 meter
X = cable X meters
(5 meters max.)

Order code - Tape

MT25	-	XX ⓐ	-	XXX ⓑ	-	X ⓒ

ⓐ **LENGTH**
1 = 1,0 m
2 = 2,0 m
4 = 4,0 m
10 = 10,0 m
20 = 20,0 m
30 = 30,0 m

ⓑ **ACCURACY CLASS**
100 = ± 85 µm/m
50 = ± 35 µm/m (up to 30 m)

ⓑ **COVER STRIP**
1 = included

POSICONTROL
Universal position display

Series LD200

- Universal display with multiple inputs
- Works with HTL, TTL, SSI and sine/cosine encoders
- High brightness LEDs, 8 digits, 10 mm
- RS232 interface
- Dedicated menus for angular & linear encoders
- mm, inch & fractional inch display

LD200

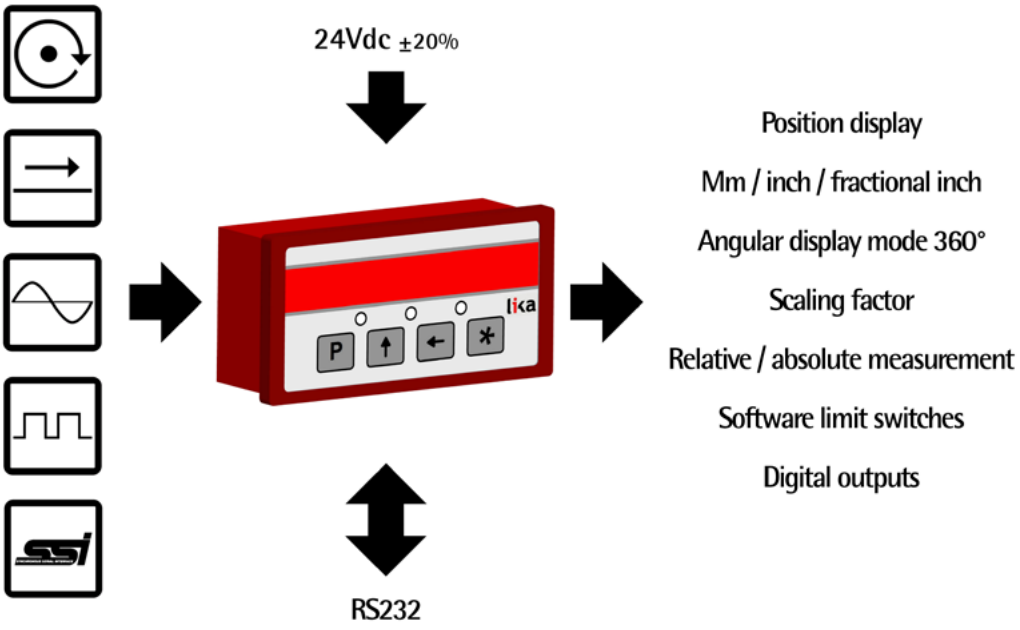
PARAMETERS
Offset value, Preset, mm/inch/fractional inch display, Angular display mode (360°), Limit switches

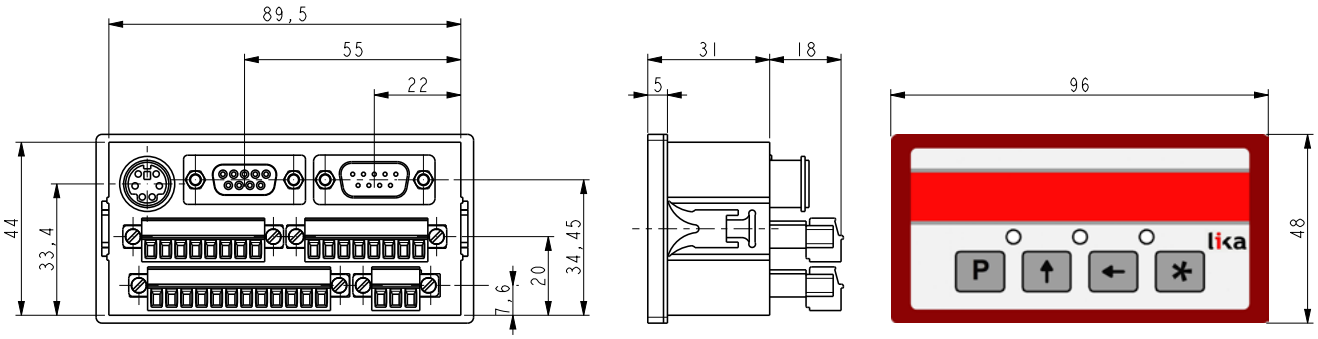
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C to +70°C (+32°F to +158°F)
Storage temperature range:	-20°C to +80°C (-4°F to +176°F)
Protection:	IP65 front, IP20 overall

MECHANICAL SPECIFICATIONS	
Display range:	-99999999 to 99999999
Dimensions:	see drawing
Cut-out:	90 x 44 mm^2
Connections:	Terminal blocks DSub 9 pin (RS232) MiniDIN (SM sensors)

ELECTRICAL SPECIFICATIONS	
Power supply:	24Vdc ±20%
Consumption:	4,5 W
Counting frequency:	1 MHz for incremental signals 6 kHz for sine/cosine signals
Sensor input:	Push-Pull (HTL), RS422 (TTL), 1Vpp, SSI SM5/SM2 magnetic sensors
Interface:	RS232
Outputs:	3 x 24V @ 23 mA max.
Inputs:	1 x Vin 30V max.

Specifications subject to changes without prior notice





LD200

Order code

LD200	-	XX ⓐ

ⓐ POWER SUPPLY
P8 = 24 Vdc ± 20%

POSICONTROL
Position display for absolute encoders

Series LD250
LD251 • LD252 • LD253

- Multi-function display for SSI encoders
- Position display, linear and angular mode
- Programmable bit blanking
- Digital or analogue outputs
- Multivoltage supply 24Vdc, 115/230Vac
- LD250 SSI display
  LD251 SSI display with analogue output
  LD252 SSI display with digital I/O
  LD253 SSI display with serial interface

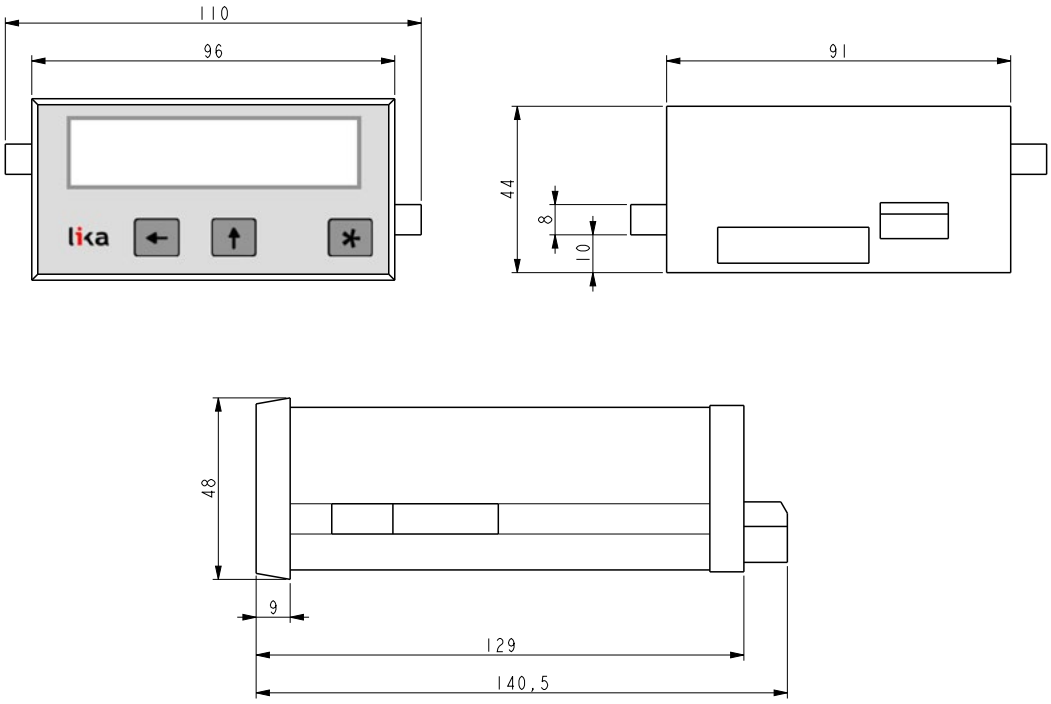
LD250

FUNCTIONS
Linear/angular display mode, Bit blanking, Linearization of analogue output, Scaling factor, Round loop function, Switching mode of digital outputs

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +45°C (+32°F, +113°F)
Storage temperature range:	-20°C +80°C (-4°F, +176°F)
Protection:	IP65 front, IP20 back

MECHANICAL SPECIFICATIONS	
Dimensions:	96 x 48 x 141 mm^3
Cut out:	91 x 44 mm^2
Display:	LED, 6 digits x 15 mm (-199999 ÷ 999999)

ELECTRICAL SPECIFICATIONS	
Power supply:	24Vdc ± 20%, 115/230 Vac
Consumption:	3,6 W or 7,5 VA (without sensor)
SSI clock rate:	100 kHz max. - 1MHz
Sensor input:	SSI, any protocol, 8 to 32 bit
Interface:	RS232/RS485 (LD253)
Outputs:	LD251: analogue 0/4-20 mA, 0 ±10V LD252: digital PNP 2 x 30V - 150 mA
Input:	LD252: 3 digital inputs (PNP, NPN or Namur)



LD250

Order code

LD250 LD251 LD252 LD253	-	XX ⓐ	-	XX ⓑ

ⓐ POWER SUPPLY	ⓑ SENSOR INPUT
PM = 24Vdc ±20%, 115/230 Vac	**M5 =** SSI (8-32 bit)

POSICONTROL
Position display for incremental encoders

Series	LD300 LD301 • LD302 • LD303

- Multi-function display for incremental encoders
- Position display, tachometer, start/stop speed display event counter
- Digital or analogue outputs
- Multivoltage supply 24Vdc, 24/42Vac, 115/230Vac
- LD300 display
  LD301 display with analogue output
  LD302 preset display with digital outputs
  LD303 display with serial interface

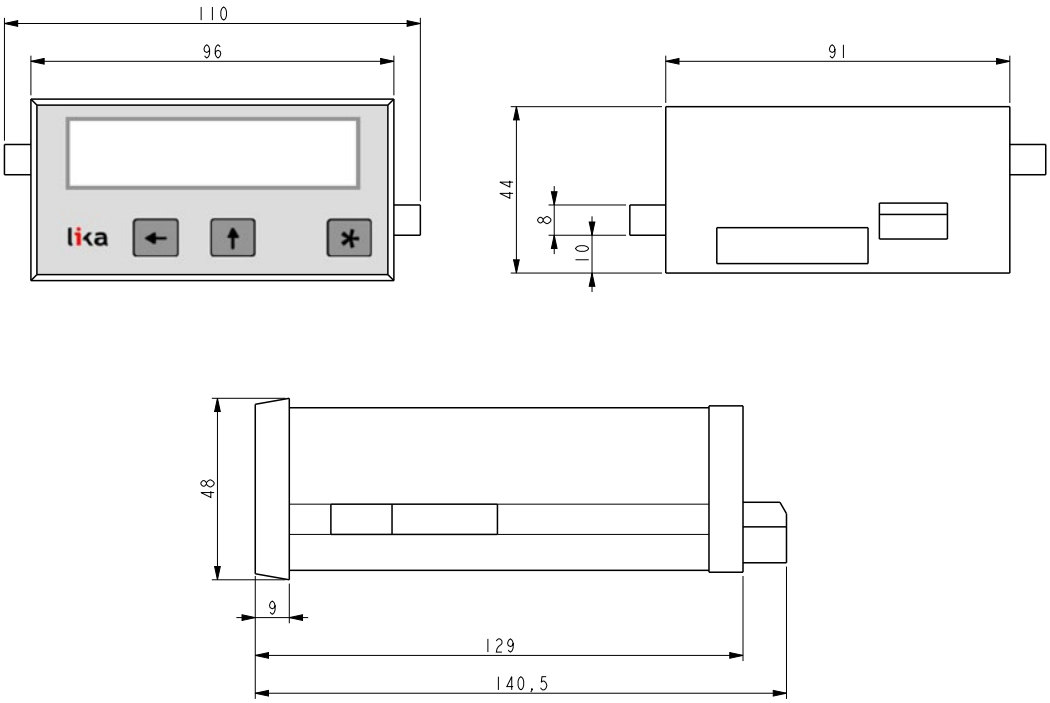
LD300

FUNCTIONS
Counter/Position, Tachometer, Time display, Stop watch, Transition speed, Linearization of analogue output, Scaling factor

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +45°C (+32°F, +113°F)
Storage temperature range:	-20°C +80°C (-4°F, +176°F)
Protection:	IP65 front, IP20 back

MECHANICAL SPECIFICATIONS	
Dimensions:	96 x 48 x 141 mm³
Cut out:	91 x 44 mm²
Display:	LED, 6 digits x 15 mm (-199999 ÷ 999999)

ELECTRICAL SPECIFICATIONS	
Power supply:	24Vdc ± 20%, 115/230 Vac 24Vdc ± 20%, 24/42 Vac
Consumption:	3,6 W max or 7,5 VA (without sensor)
Counting frequency:	100 kHz max. (counter mode) 25 kHz max. (other operating modes)
Sensor input:	PNP or NPN (HTL) TTL
Interface:	RS232/RS485 (LD303)
Outputs:	LD301: analogue 0/4-20 mA, 0 ±10V LD302: digital PNP 2 x 30V - 150 mA



LD300

Order code

LD300 LD301 LD302 LD303	-	XX ⓐ	-	XX ⓑ

ⓐ POWER SUPPLY	ⓑ SENSOR INPUT
PM = 24Vdc ±20%, 115/230 Vac	**M1 =** PNP, NPN (HTL)
P4 = 24Vdc ±20%, 24/42 Vac	**M8 =** TTL

POSICONTROL
Single axis LED position display

Series MC150

- Programmable position display for encoders
- Counting frequency up to 1 MHz
- Large range power supplies

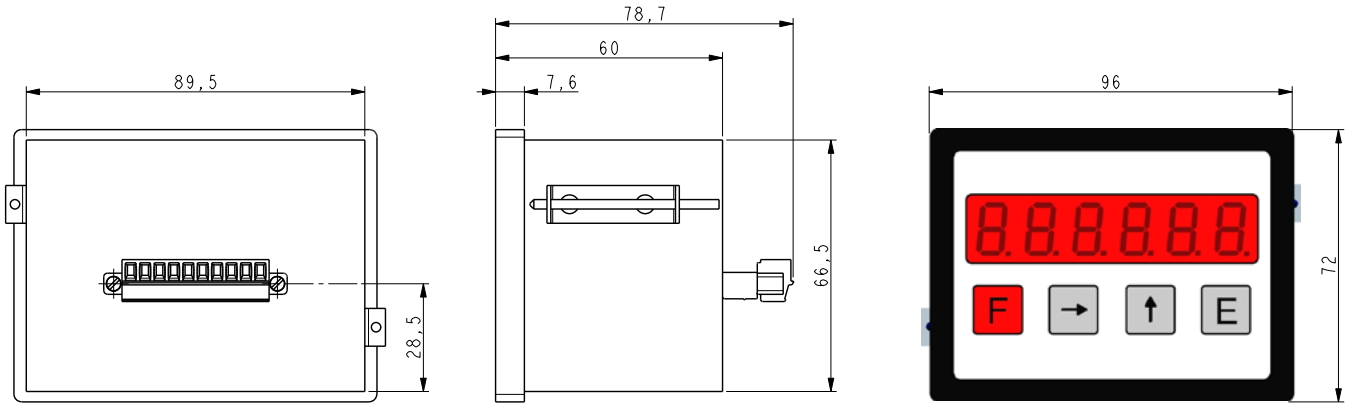
MC150

FUNCTIONS
Set value, Power down memory, Scaling factor, Edge evaluation, Counting direction, Decimal point, Key functions, Reset and Set logic, Absolute/relative mode, Offset logic, Offset value, In- and Output logic, Security code, Reference pulse

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +50°C (+32°F, +122°F)
Storage temperature range:	-20°C +65°C (-4°F, +149°F)
Protection:	IP42 front, IP20 back

MECHANICAL SPECIFICATIONS	
Dimensions:	96 x 72 x 77 mm^3
Cut out:	94 x 66 mm^2
Display:	6 digit x 14 mm (-999999 ÷ 999999)

ELECTRICAL SPECIFICATIONS	
Power supply:	24 Vdc/Vac, 115 Vac, 230 Vac
Consumption:	150 mA (excl. encoders)
Counting frequency:	1 MHz
Encoder input:	AB0, AB0 /AB0 (HTL or TTL selectable) Function input for reset, preset, relative/absolute mode
Power supply for encoder:	5 Vdc/24 Vdc (12 Vdc with P5)
Outputs:	2 digital outputs 24V, 600 mA, PNP (optional, only with power supply P1) 2 relays (optional, only with power supply P1)
Interface:	RS232 (optional)



MC150

Order code

MC150	-	XX ⓐ	-	XXX ⓑ	-	XX ⓒ	-	XX ⓓ

ⓐ **POWER SUPPLY**
P1 = 24Vdc ± 10%
P5 = 230 Vac ± 10%
P6 = 115 Vac ± 10%

ⓑ **INPUT**
M12 = AB0, AB0 /AB0

ⓒ **INTERFACE**
- = no interface
I1 = RS232

ⓓ **OUTPUT**
- = no output
01 = 2 digital outputs (only with P1)
02 = 2 relays (only with P1)

POSICONTROL
Single axis LED position display

Series MC111

- Position display for encoders
- Encoder or potentiometer input
- Low-cost version

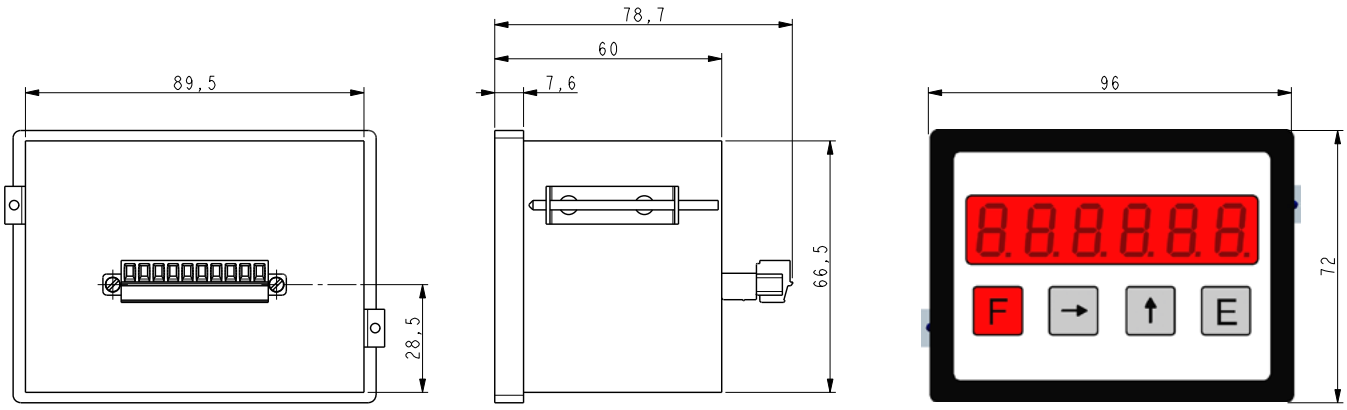
MC111

FUNCTIONS
Offset, preset, scaling factor, edge evaluation, decimal point, keyboard function, reset and set logic, absolute/relative mode, counting direction, actual position memory, logic of inputs/outputs, security code, reference pulse

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +50°C (+32°F, +122°F)
Storage temperature range:	-20°C +80°C (-4°F, +176°F)
Protection:	IP42 front, IP20 back

MECHANICAL SPECIFICATIONS	
Dimensions:	96 x 72 x 60 mm^3
Cut out:	94 x 66 mm^2
Display:	6 digit x 14 mm (-999999 ÷ 999999)

ELECTRICAL SPECIFICATIONS	
Power supply:	24 Vdc +10%
Consumption:	80mA (excl. encoders)
Counting frequency:	30 kHz
Encoder input:	A0B0, A0B0 /A0B0 (HTL or TTL selectable) Function input for reset, preset, relative/absolute mode
Sensor input:	1 x AB (HTL) 2 x analogue 12 bit (min. 500 Ω)
Power supply for encoder:	24 Vdc
Power supply for potentiometer:	5 Vdc
Digital inputs/outputs:	2 selectable for preset, reset, software limit switch



MC111

Order code

MC111	-	XX ⓐ	-	XXX ⓑ	-	XX ⓒ	-	XX ⓓ

ⓐ **POWER SUPPLY**
P8 = 24Vdc ± 10%

ⓑ **INPUT**
M1 = AB (HTL)
A10 = 2 x analogue

ⓒ **OUTPUT**
- = no output
01 = 2 outputs 24V-600mA, PNP
(Function inputs not available)

POSICONTROL
Two axes LED display

Series MC221

- 2 axes position display for incremental encoders
- Compact housing
- 3 axes version available on request

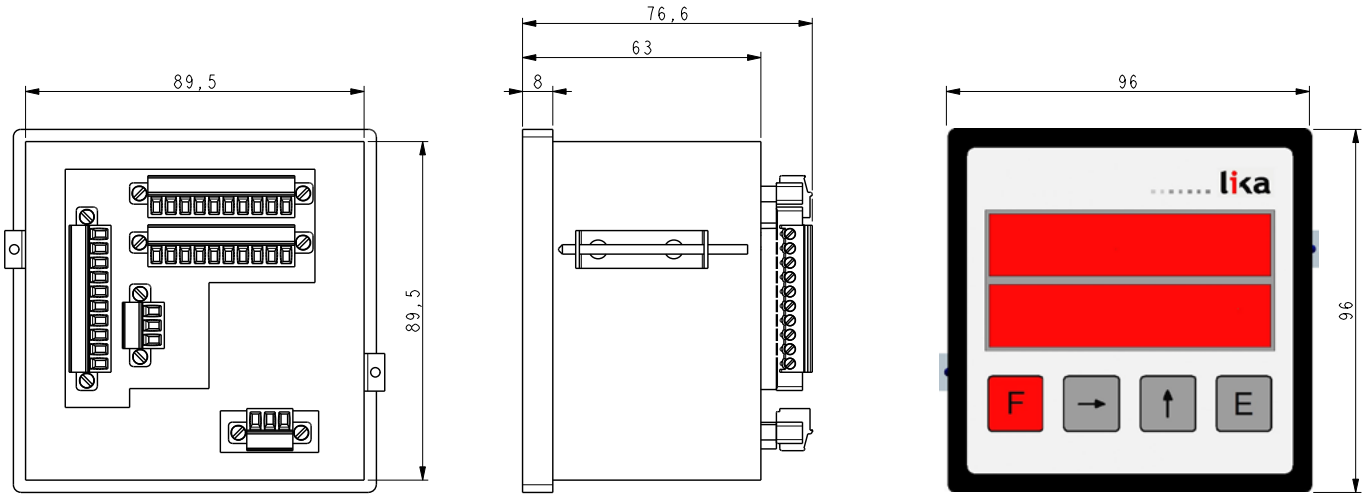
MC221

FUNCTIONS
Set value, power down memory, scaling factor, edge evaluation, counting direction, decimal point, key functions, reset and set logic, absolute/relative mode, offset logic, offset value, In- and output logic, security code, reference pulse

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +50°C (+32°F, +122°F)
Storage temperature range:	-20°C +65°C (-4°F, +149°F)
Protection:	IP42 front, IP20 back

MECHANICAL SPECIFICATIONS	
Dimensions:	96 x 96 x 72 mm^3 (incl. connectors)
Cut out:	92 x 92 mm^2
Display:	2 x 6 digit x 14 mm (-999999 ÷ 999999)

ELECTRICAL SPECIFICATIONS	
Power supply:	24 Vdc +10%, 115 Vac, 230 Vac
Consumption:	170 mA max. (excl. encoders)
Counting frequency:	500 kHz max.
Encoder input:	2 x AB0, AB0 /AB0 (HTL + TTL)
Power supply for encoder:	5 Vdc/24 Vdc
Digital inputs:	4 for preset, reset, abs/rel mode
Interface:	RS232 (optional)
Outputs:	2 digital outputs 24V@600 mA, PNP (optional)



MC221

Order code

MC221	-	XX ⓐ	-	XXX ⓑ	-	XX ⓒ	-	XX ⓓ

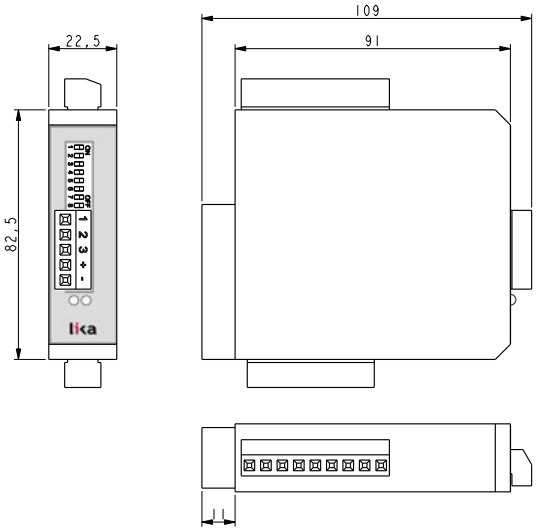
ⓐ **POWER SUPPLY**
P8 = 24Vdc ± 10%
P5 = 230 Vac ± 10%
P6 = 115 Vac ± 10%

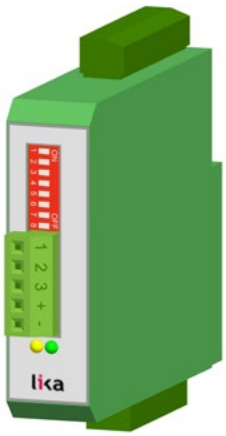
ⓑ **INPUT**
M12 = AB0, AB0 /AB0

ⓒ **INTERFACE**
- = no interface
I1 = RS232 interface

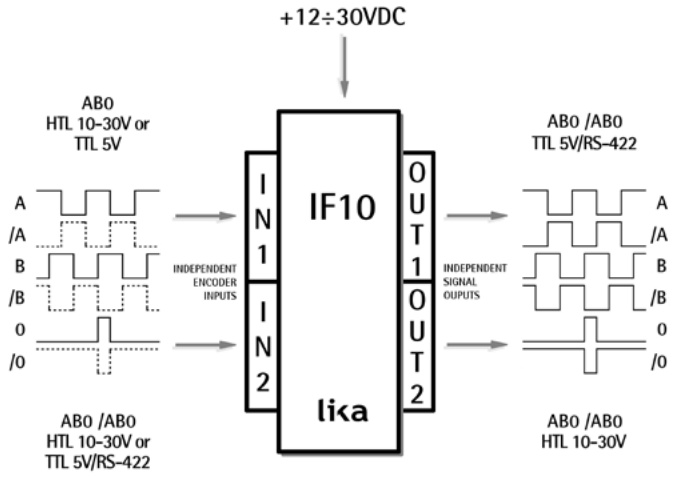
ⓓ **OUTPUT**
- = no output
01 = 2 digital outputs

Series **IF10**





Order code: IF10



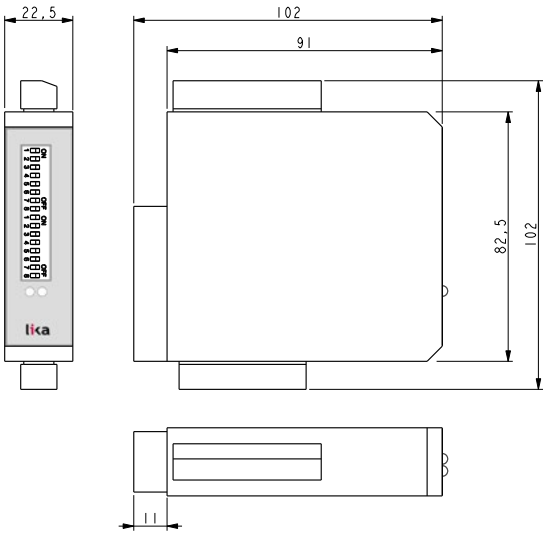
FUNCTIONS
Encoder signal splitter, signal level converter/repeater and encoder cross switcher

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +50°C (+32°F +113°F)
Storage temperature range:	-25°C +75°C (-13°F +158°F)
Protection:	IP40

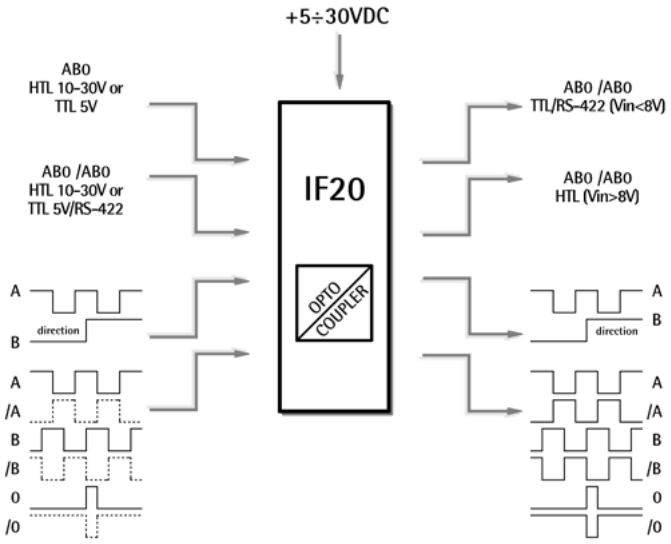
MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Electrical connections:	screw terminals
Weight:	~ 0,1 Kg (3,5 oz)

ELECTRICAL SPECIFICATIONS	
Power supply:	+12Vdc +30Vdc
Consumption:	50 mA (without sensor)
Counting frequency:	RS422 or TTL differential: 1 MHz HTL or TTL: 250 kHz
Sensor input:	see diagram
Outputs:	HTL, TTL, Push-Pull AB0, /AB0 5-30V @ 30 mA

Series **IF20**



Order code: IF20



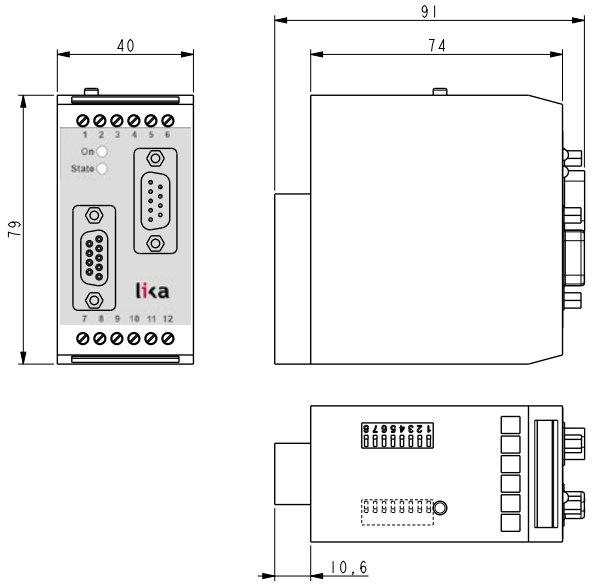
FUNCTIONS
Encoder signal splitter, signal level converter and potential separator

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +50°C (+32°F +113°F)
Storage temperature range:	-25°C +75°C (-13°F +158°F)
Protection:	IP40

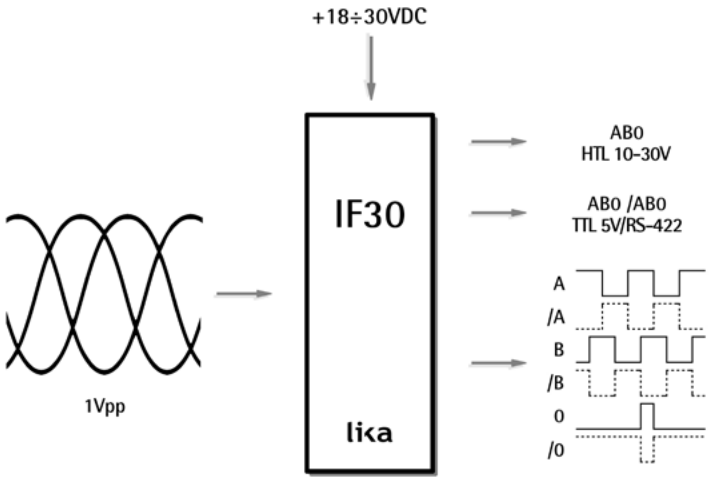
MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Electrical connections:	screw terminals, DSub connectors
Weight:	~ 0,1 Kg (3,5 oz)

ELECTRICAL SPECIFICATIONS	
Power supply:	+5Vdc +30Vdc
Consumption:	50 mA (without sensor)
Counting frequency:	RS422: 500 kHz HTL: 300 kHz
Sensor input:	see diagram
Interface:	RS232
Outputs:	HTL, TTL, Push-Pull AB0, /AB0 5-30V @ 30 mA

Series **IF30**



Order code: IF30



FUNCTIONS
Adjustable interpolation rate 5÷50, Divider function 1:1 ÷ 1:128 (to reduce output frequency), Filtering functions, adjustable output signal level

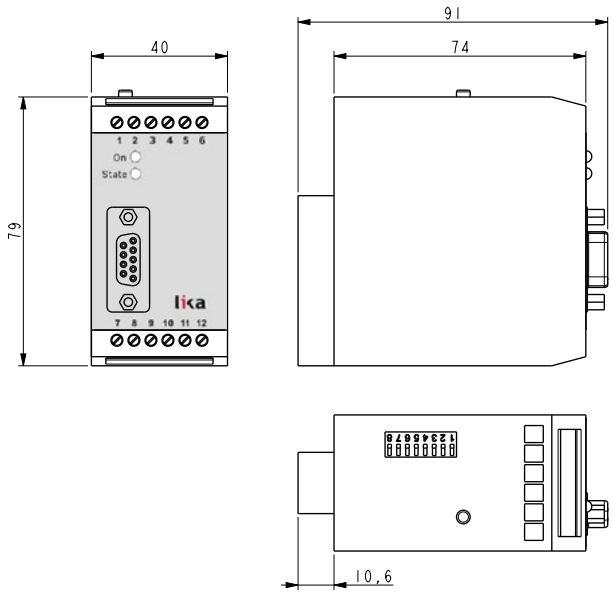
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +50°C (+32°F +113°F)
Storage temperature range:	-25°C +75°C (-13°F +158°F)
Protection:	IP40

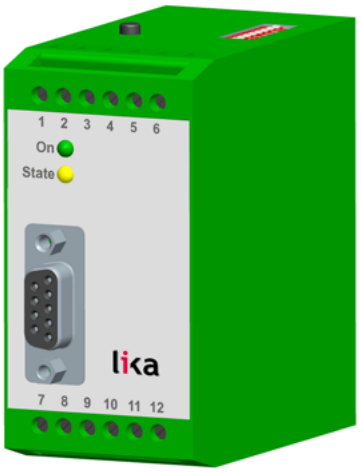
MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Electrical connections:	screw terminals, Dsub connectors
Weight:	~ 200 g

ELECTRICAL SPECIFICATIONS	
Power supply:	+18Vdc +30Vdc
Consumption:	150 mA max. (without sensor)
Sensor input:	sine/cosine 1Vpp (0,8 ÷ 1,2 Vpp)
Output:	HTL: Vin - 4V, TTL acc. to RS422

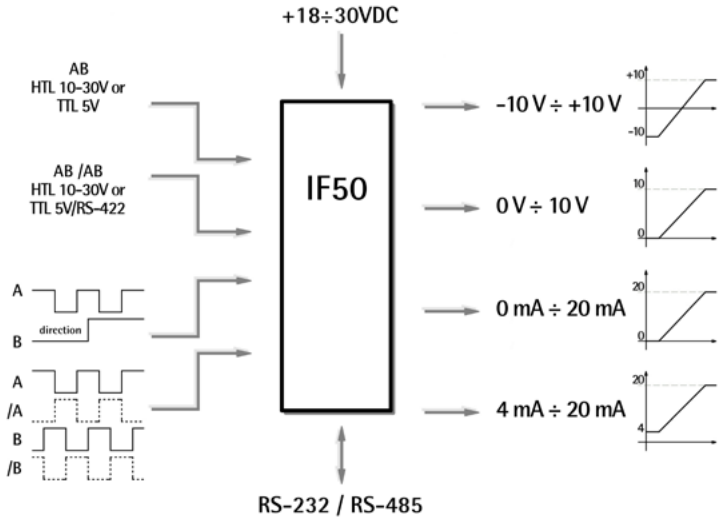
Specifications subject to changes without prior notice

Series **IF50**





Order code: IF50



FUNCTIONS
Incremental quadrature to analogue or RS232/485 conversion, free scaling, linearization curves, teach-in function, encoder supply + 5Vdc

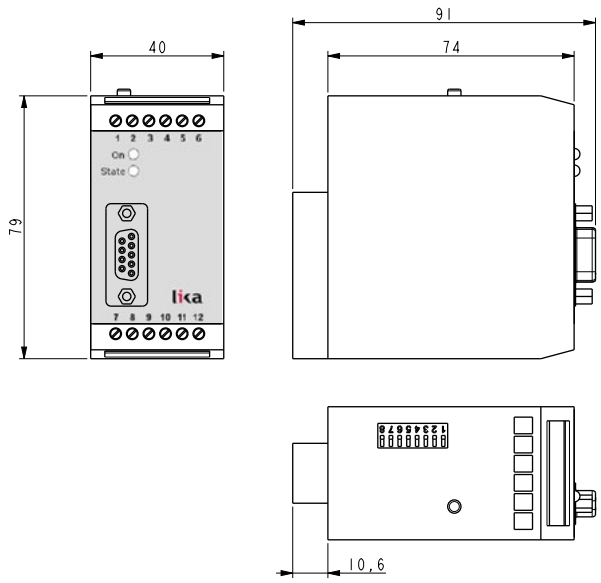
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +50°C (+32°F +113°F)
Storage temperature range:	-25°C +75°C (-13°F +158°F)
Protection:	IP40

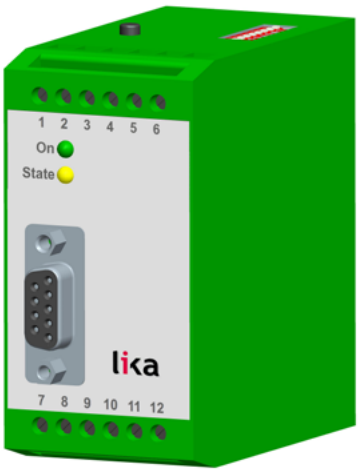
MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Electrical connections:	screw terminals, Dsub connectors
Weight:	~ 190 g

ELECTRICAL SPECIFICATIONS	
Power supply:	+18Vdc +30Vdc
Consumption:	85 mA max. (without sensor)
Sensor input:	Line Driver (RS422/TTL diff.), TTL, HTL
Output:	analogue ±10V, 0-10V, 0-20 mA, 4-20 mA
Interface:	RS232/RS485

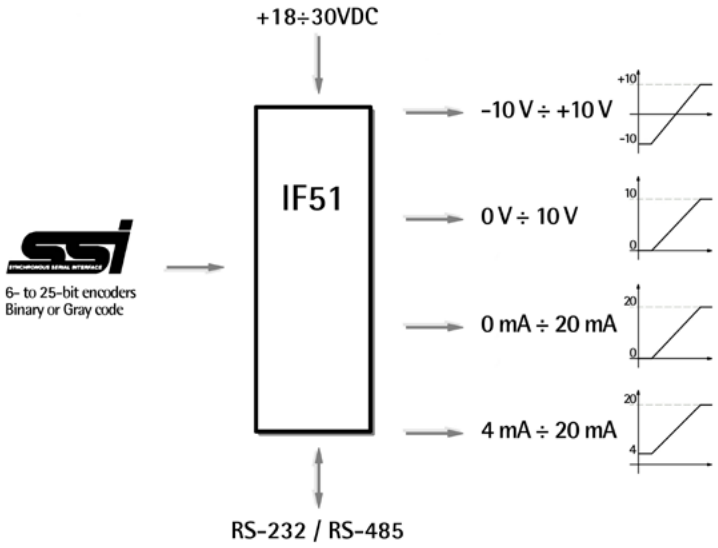
Specifications subject to changes without prior notice

Series **IF51**





Order code: IF51



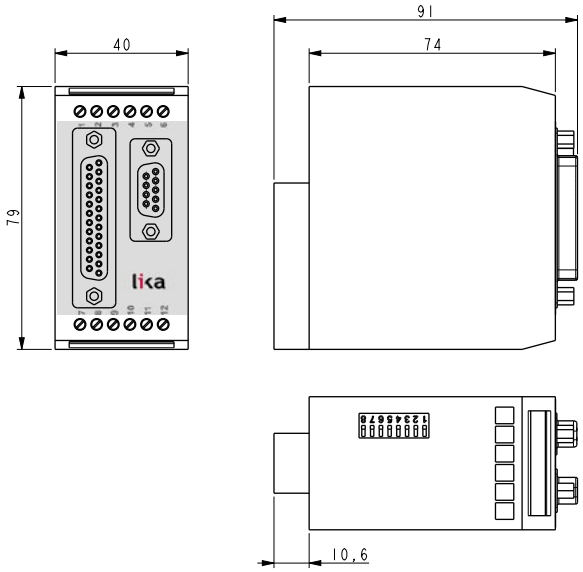
FUNCTIONS
SSI signal converter, master or slave mode, free scaling, linearization curves, bit blanking

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +50°C (+32°F +113°F)
Storage temperature range:	-25°C +75°C (-13°F +158°F)
Protection:	IP40

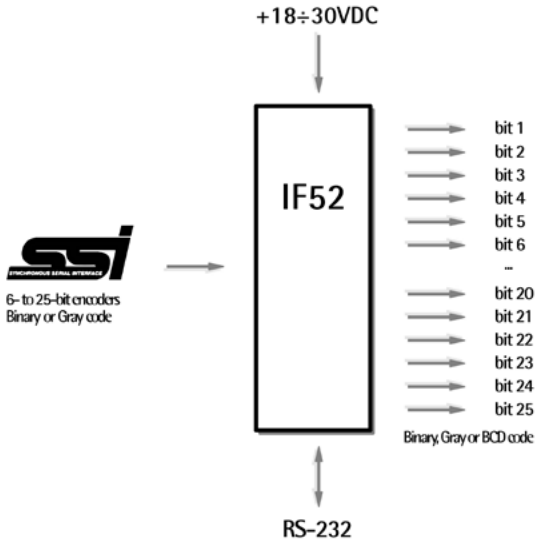
MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Electrical connections:	screw terminals, DSub connectors
Weight:	~ 190 g

ELECTRICAL SPECIFICATIONS	
Power supply:	+18Vdc +30Vdc
Consumption:	170 mA max. (without sensor)
Sensor input:	any SSI protocol: 6 to 25 bit (see diagram)
Clock output:	differential (acc. to RS422), 1 MHz
Interface:	RS232, RS485
Outputs:	±10 V, 0-10V, 0-20 mA, 4-20 mA

Series IF52



Order code: IF52



FUNCTIONS
SSI signal converter, master or slave mode, free scaling, linearization curves, latch input

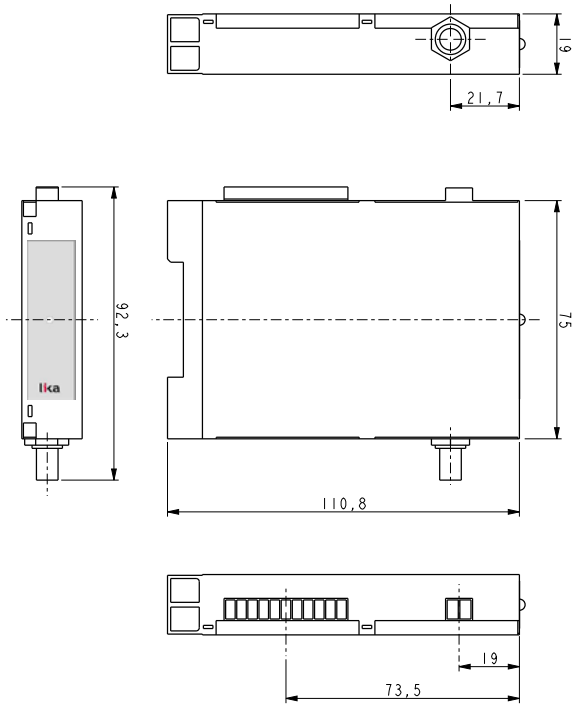
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +50°C (+32°F +113°F)
Storage temperature range:	-25°C +75°C (-13°F +158°F)
Protection:	IP40

MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Electrical connections:	screw terminals, Dsub connectors
Weight:	~ 190 g

ELECTRICAL SPECIFICATIONS	
Power supply:	+18Vdc +30Vdc
Consumption:	200 mA max. (without sensor)
Sensor input:	any SSI protocol: 6 to 25 bit, Gray or Binary coded
Output:	Push Pull (short circuit proof) , Gray, Binary or BCD coded
Interface:	RS232

Specifications subject to changes without prior notice

Series **IF60 • IF61**



IF60 - IF61

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	0°C +50°C (+32°F +113°F)
Storage temperature range:	-25°C +75°C (-13°F +158°F)
Protection:	IP40

MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Optical fiber connection:	ST connector ø 9 mm
Glass fibre:	2,5 mm² max., multimode, 50/125 µm, 62.5/125 µm
Weight:	~ 200 g

ELECTRICAL SPECIFICATIONS	
Power supply:	+5Vdc +5%, 10-30 Vdc
Consumption:	< 2 W each module
Encoder input:	TTL/RS422, HTL
Input/output frequency:	1 MHz max.
Signal sampling rate:	10 M samples/sec.

Order code

IF60 trasmitter

IF60	XX-X ⓐ

ⓐ INTERFACE - POWER SUPPLY
L-1 = RS422, +5Vdc ± 5%
L-2 = RS422, +10Vdc +30Vdc
YC-2 = HTL/Push-Pull (AB0 /AB0), +10Vdc +30Vdc
Y-2 = HTL/Push-Pull (AB0), +10Vdc +30Vdc

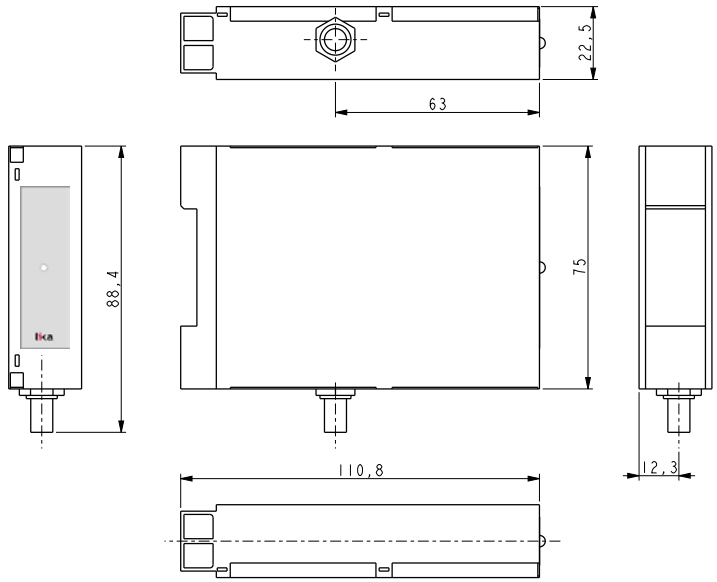
Order code

IF61 receiver

IF61	XX-X ⓐ

ⓐ INTERFACE - POWER SUPPLY
L-1 = RS422, +5Vdc ± 5%
L-2 = RS422, +10Vdc +30Vdc
YC-2 = HTL/Push-Pull, +10Vdc +30Vdc

Series **IF62 • IF63**



IF62 - IF63

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	-10°C +60°C (14°F +140°F)
Storage temperature range:	-10°C +60°C (14°F +140°F)
Protection:	IP40

MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Optical fiber connection:	ST connector, 13 mm, ø 9 mm
Glass fibre:	2,5 mm² max., multimode, 50/125 µm, 62.5/125 µm
Weight:	~ 200 g

ELECTRICAL SPECIFICATIONS	
Power supply:	+5Vdc +5%, 10-30 Vdc
Consumption:	< 2 W each module
Encoder input:	SSI (clock +/-, data +/-)
Clock rate:	500 kHz max.
Optical transmission rate:	120 MBit/s

Order code

IF62 trasmitter

IF62	XX-X ⓐ

ⓐ INTERFACE - POWER SUPPLY
S-1 = SSI (RS422), +5Vdc ± 5%
S-2 = SSI (RS422), +10Vdc +30Vdc

Order code

IF63 receiver

IF63	XX-X ⓐ

ⓐ INTERFACE - POWER SUPPLY
S-1 = SSI (RS422), +5Vdc ± 5%
S-2 = SSI (RS422), +10Vdc +30Vdc

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