







# 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.
	<b>RD1A</b> Positioning unit with absolute encoder Brushless motor Diagnostic LEDs  <b>Industrial</b>	28	59 x 112 x 125	14	240 120 60	1,2 2,4 5	3 6 12		24	•	•	•	•	0 +60 (32 +140)	IP65
	<b>RD12A</b> Positioning unit with absolute encoder Brushless motor Diagnostic LEDs  <b>Industrial</b>	30	59 x 142 x 125	14	240 120 60	1,2 2,4 5	3 6 12	•	24	•	•	•	•	0 +60 (32 +140)	IP65
	<b>RD5</b> Compact positioning unit with absolute encoder Brushless motor  <b>Industrial</b>	32	48,3 x 88 x 126,6	14	60	5	12		24		•	•	•	0 +60 (32 +140)	IP54
	<b>RD52</b> Compact positioning unit with absolute encoder Brushless motor  <b>Industrial</b>	32	48,3 x 88 x 126,6	14	60	5	12	•	24		•	•	•	0 +60 (32 +140)	IP54
	<b>RD4</b> Positioning unit with absolute encoder Brushless motor  <b>Heavy-duty</b>	34	65 x 153 x 160	20	94 62	10 15	20 30		24		•	•	•	0 +60 (32 +140)	IP65

## 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.

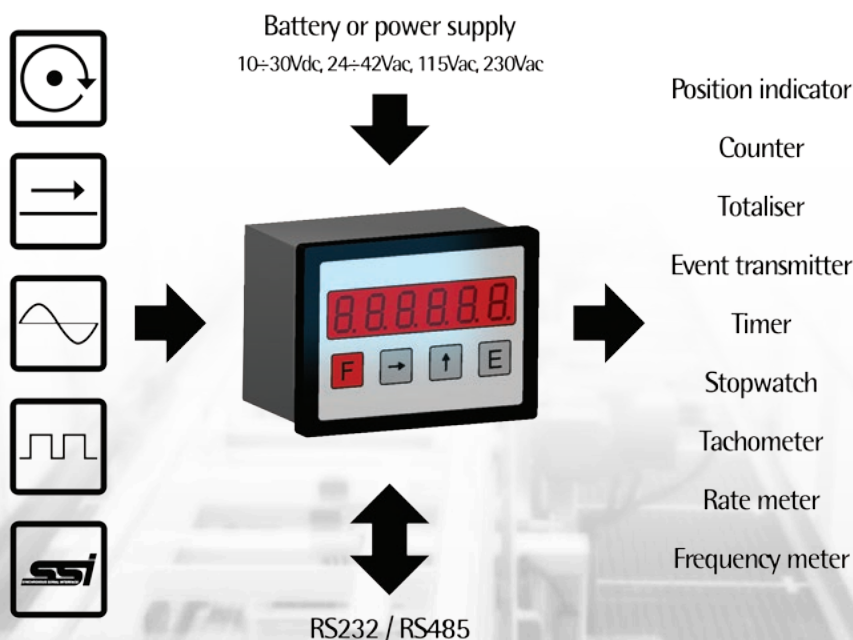
Lika Electronic designs, manufactures and markets a wide range of multi-function electronic counters and position controllers with either **LCD or LED display**.

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.

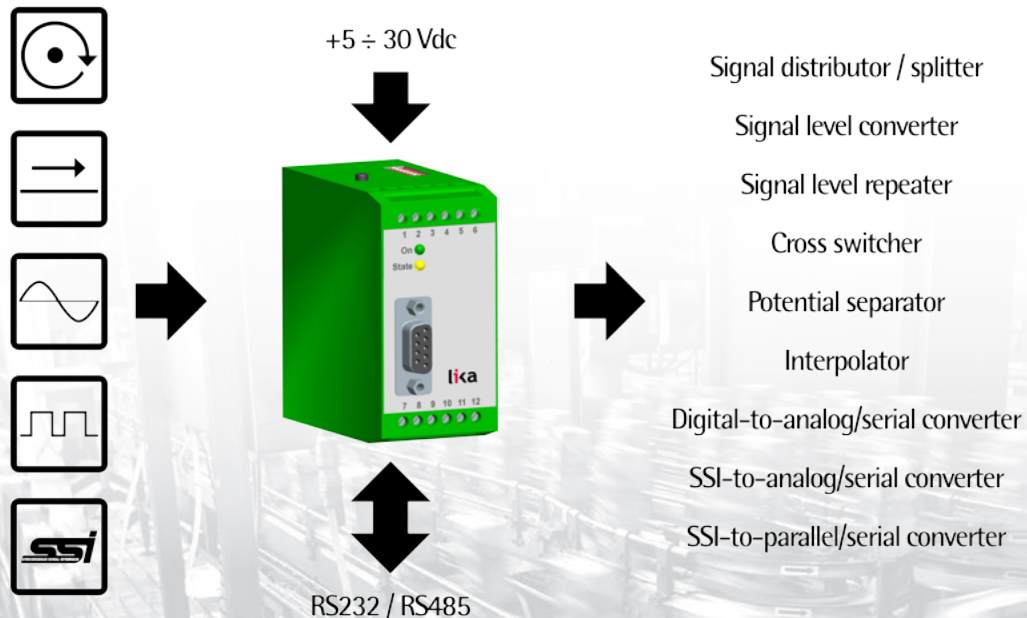
The need for integration of components with bad compatibility has recently grown and led both problems and costs to a significant increase.

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





- 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

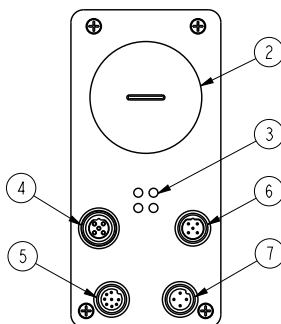
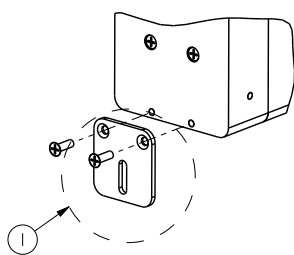
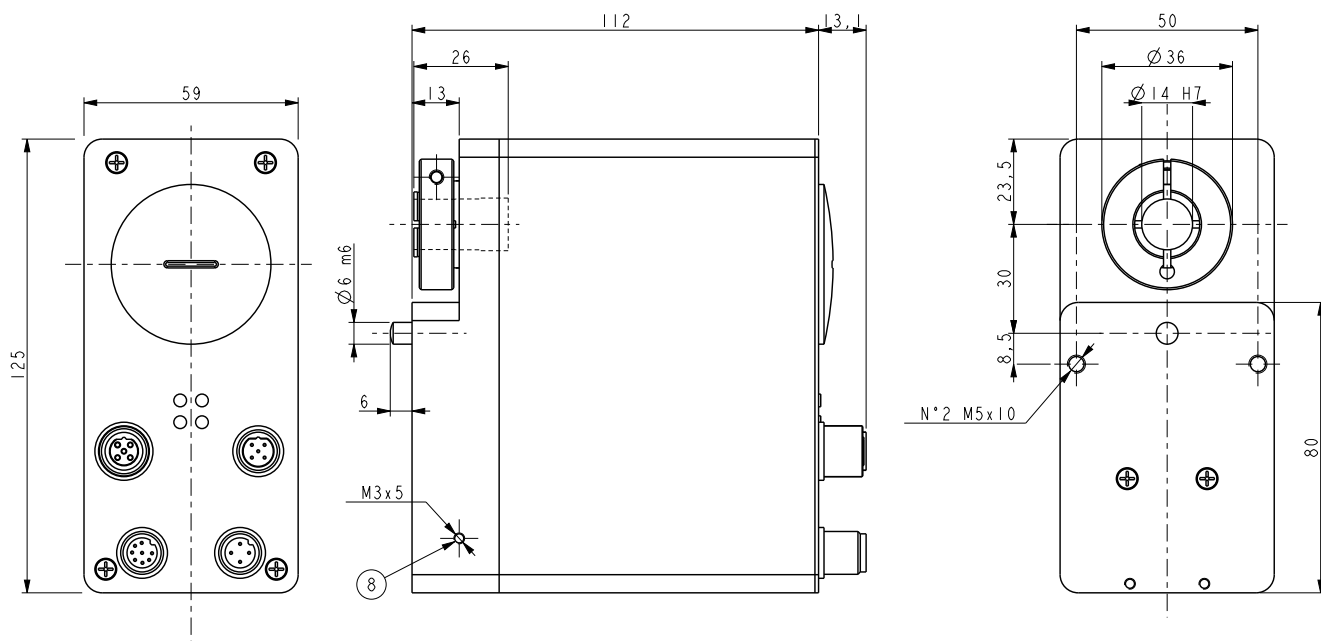
Resolution:	1024 inf./rev. x 1024 rev.
Power supply:	+24Vdc ± 10%
Power (motor):	31 W
Service interface:	RS232 (except Modbus RTU RS485)
Bus Interface:	Profibus-DP, CANopen, Modbus RTU (RS485)
Inputs:	3 x 24V
Output:	1 x o.c @ 100 mA

### 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

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- 2 Dip switch Jog +/- button access

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- 3 Diagnostic leds

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- 4 M12 5 pin connector BUS OUT

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- 5 M12 8 pin plug, Service interface, I/Os

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- 6 M12 5 pin plug BUS IN

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- 7 M12 4 pin plug power supply

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- 8 GND connection

RD1A

Order code

RD1A	-	X (a)	-	XXX (b)	-	XX (c)	-	XX (d)	-	X (e)
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(a) POWER SUPPLY

P8 = 24Vdc ± 10%

(b) TORQUE/SHAFT ROTATIONAL SPEED

T48 = 5 Nm @ 60 rpm  
 T24 = 2,5 Nm @ 120 rpm  
 T12 = 1,2 Nm @ 240 rpm

(c) INTERFACE

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

(d) ENCODER

E2 = Absolute, 1024 inf./rev. x 1024 rev.

(e) CONNECTIONS

M = M12 connectors



- 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

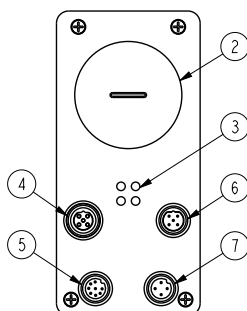
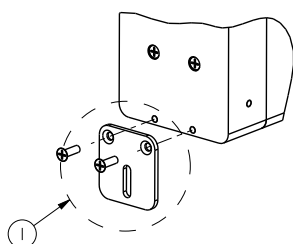
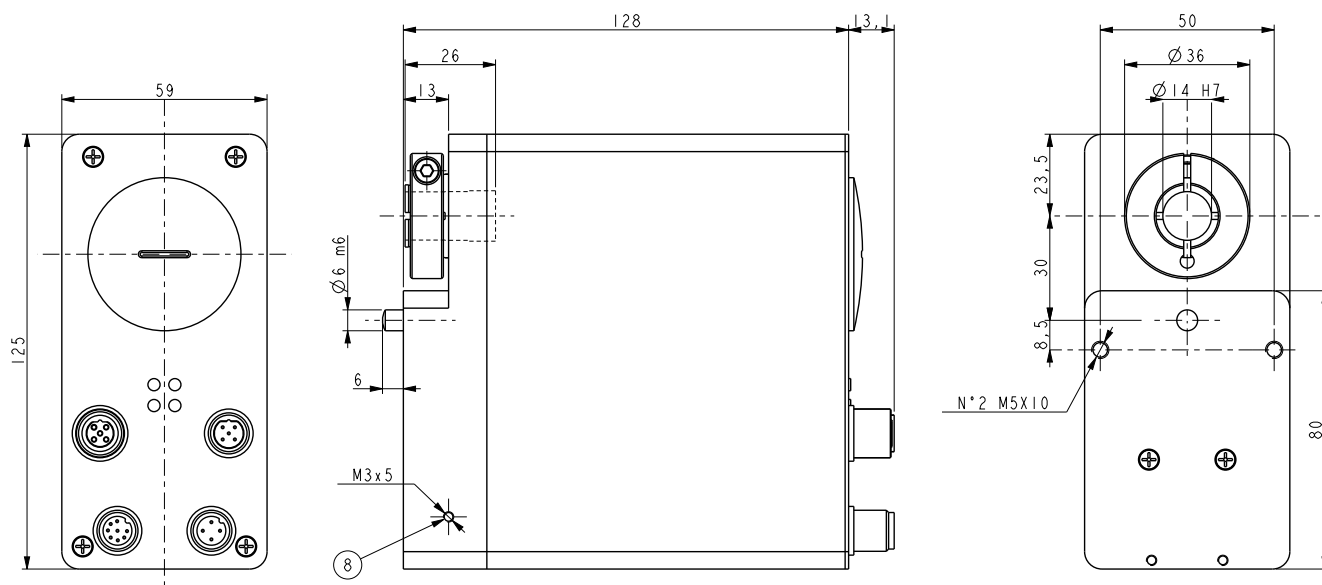
### MATERIALS

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 Ⓔ
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Ⓐ 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



- 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

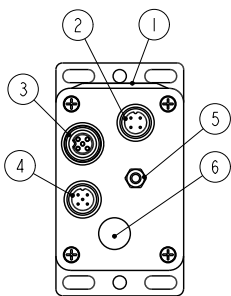
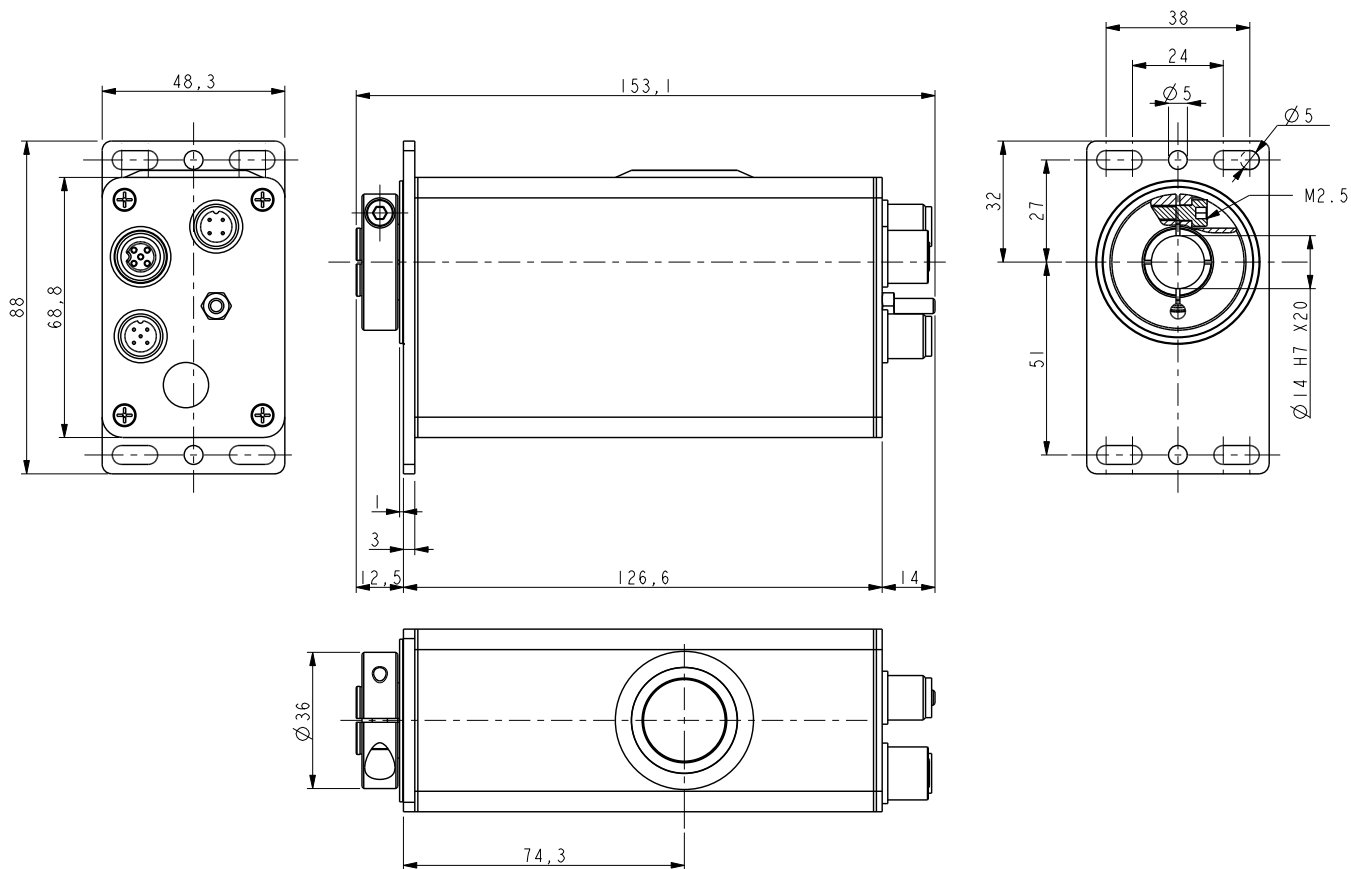
Resolution:	1024 inf./rev. x 256 rev.
Power supply:	+24Vdc ± 10%
Power (motor):	31 W
Input current:	motor: ~1.6A nominal, ~2A max. control unit: 80 mA max. (RD5) 480 mA max. (RD52)
Bus Interface:	Profibus-DP, CANopen, Modbus RTU (RS485)
Protection:	against overcurrent and overtemperature

### MATERIALS

Flanges:	die cast aluminium, UNI EN AC-46100
Housing:	die cast aluminium, 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	-	X	-	XXX	-	XX	-	XX	-	X
RD52		(a)		(b)		(c)		(d)		(e)

(a) POWER SUPPLY

PB = 24Vdc ± 10%

(b) TORQUE/SHAFT ROTATIONAL SPEED

T50 = 5 Nm @ 60 rpm

(c) INTERFACE

CB = CANopen (DS301)

PB = Profibus-DP

MB = Modbus RTU (RS485)

(d) ENCODER

E3 = Absolute, 1024 inf./rev. x 256 rev.

(e) CONNECTIONS

M = M12 connectors



- 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

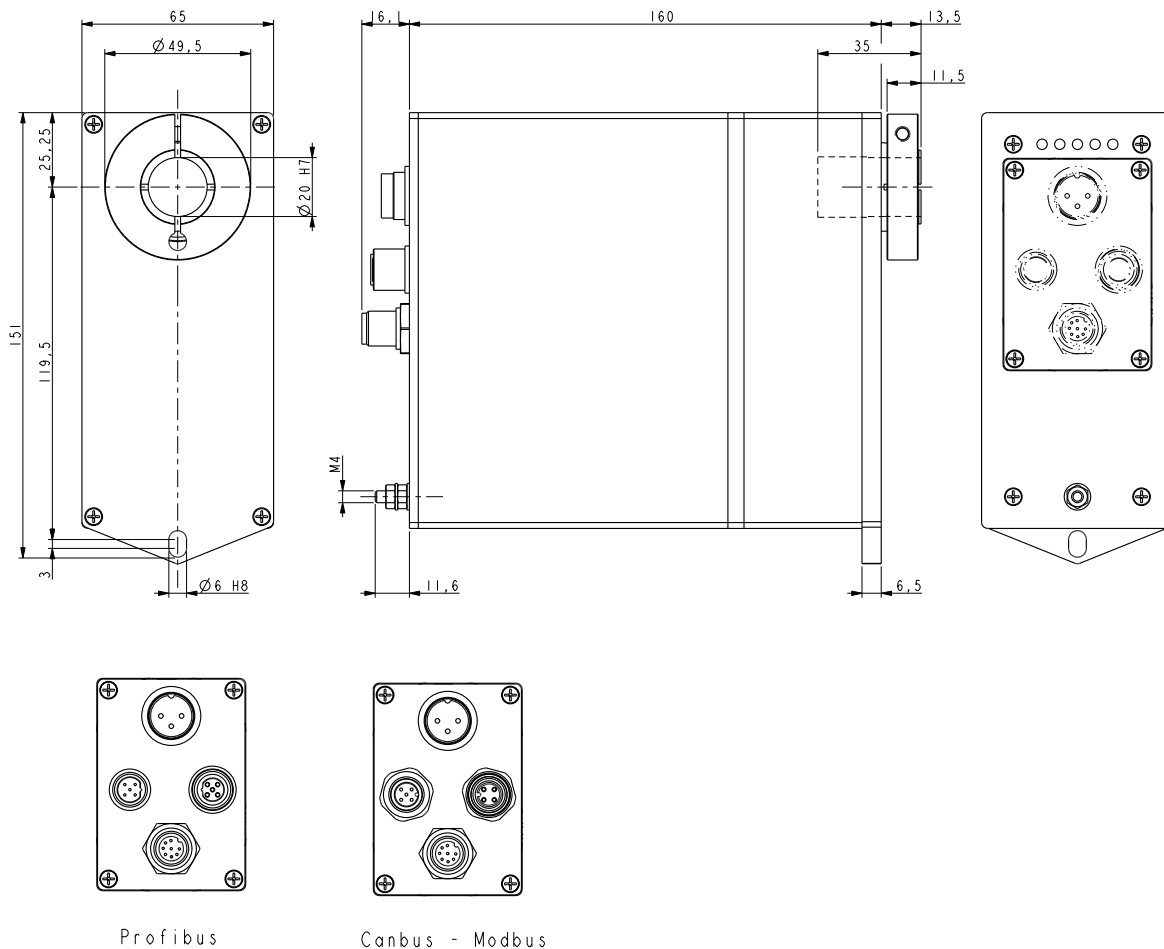
Resolution:	1024 inf./rev. x 1024 rev.
Power supply:	+24Vdc ± 10%
Power (motor):	100 W
Input current:	motor: 6,5 A max. control unit: 75 mA max.
Bus Interface:	Profibus-DP, CANopen (DS301), Modbus RTU (RS485)
Inputs:	3 x 24V
Output:	3 x o.c @ 100 mA

### 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



RD4

Order code

RD4	-	X (a)	-	XXX (b)	-	XX (c)	-	XX (d)	-	X (e)
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(a) POWER SUPPLY

P8 = 24Vdc ± 10%

(b) TORQUE/SHAFT ROTATIONAL SPEED

T32 = 10 Nm @ 94 rpm  
T47 = 15 Nm @ 63 rpm

(c) INTERFACE

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

(d) ENCODER

E2 = Absolute, 1024 inf./rev. x 1024 rev.

(e) CONNECTIONS

M = M12 connectors