Rotary drive unit ERMS-32-90-ST-M-H1-PLK-AA

FESTO

Part number: 8087821





General operating condition

Electromechanical rotary actuator With integrated drive with integrated garbox Mounting position Any Type of mounting With integrated garbox Any With internal thread Rotation angle 90° Gear ratio 7:1 Max. rotational speed 100 rpm Max. speed at 90° 100 rpm Torsional backlash 0.2 deg Repetition accuracy 20.1° Position sensing Motor encoder Max. axial force 450 N Max. axial force 9550 N Permissible mass moment of inertia 0.0164 kgm² Product weight 2304 g Step angle with full step 1.8 deg Step angle tolerance 15% Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, connection technology M12x1, T-coded as per EN 61076-2-101 Logic interface, connection type Degy Logic interface, connection pattern 0.0992264 Max. cable length 15 m outputs 15 m inputs 20 m or 10-Link® operation PC comminal voltage Nax. cable length 15 m outputs 15 m inputs 20 m for 10-Link® operation Pc mominal current Max. cable length 15 m Ax. carries 15 M Ax. cable length 15 m outputs 15 m inputs 20 m for 10-Link® operation Pc mominal current 15 A Max. carries Sub Ax. cable length 25 M Ax. carries of the consumption 26 M Ax. carries of the consumption 27 M Ax. carries of the consumption 28 M Ax. carries of the consumption 29	Feature	Value
With integrated drive with integrated gearbox Mounting position Any Type of mounting With internal thread Rotation angle 90° Gear ratio 7:1 Max. rotational speed 100 rpm Max. speed at 90° 100 rpm Torsional backlash 0.2 deg Repetition accuracy 20.1° Position sensing Motor encoder Max. axial force 450 N Max. radial force 450 N Max. radial force 950 N Permissible mass moment of inertia 0.0.164 kgm² Product weight 2204 g Step angle with full step 1.8 deg Step angle tolerance 100% Power supply, type of connection Plug Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, connection pattern 0.0099589 Logic interface, connection type Plug Logic interface, connection type Plug Max. cable length 15 m outputs 15 m inputs 20 m for 10-Link® operation PC nominal voltage PC AC Nominal current Max. carle fluctuations 4-/-15 % Power supply toughted fluctuations Premissible voltage fluctuations PC AC Nominal current Max. carle length Promissible voltage fluctuations PC HISS S00 mA Permissible voltage fluctuations PC HISS S00 mA Permissible voltage fluctuations	Size	32
Type of mounting Rotation angle Gear ratio 7:1 Max. rotational speed 100 rpm Max. speed at 90° 100 rpm Torsional backlash 0.2 deg Repetition accuracy 40.1° Position sensing Motor encoder Max. axial force 450 N Max. radial force 550 N Permissible mass moment of inertia 0.0164 kgm² Product weight 2304 g Step angle tolerance 55% Duty cycle 100% Power supply, type of connection Plug Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, unmber of pins/wires 4 Power supply, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection pattern 0099254 Max. cable length 15 m outputs 15 m inputs 20 m for 10-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Max. current Consumption Permissible voltage fluctuations 4-/-15 %	Structural design	With integrated drive
Rotation angle 90° Gear ratio 7:1 Max. rotational speed 100 rpm Max. speed at 90° 100 rpm Torsional backlash 0.2 deg Repetition accuracy ±0.1° Position sensing Motor encoder Max. axial force 450 N Max. radial force 550 N Permissible mass moment of inertia 0.0164 kgm² Product weight 2304 g Step angle with full step 1.8 deg Step angle tolerance 5% Duty cycle 100% Power supply, type of connection Plug Power supply, connection technology M12x1, 7-coded as per EN 61076-2-111 Power supply, unmber of pins/wires 4 Power supply, connection pattern 00995989 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection pattern 0099264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Max. current consumption 4/-15 %	Mounting position	Any
Gear ratio Max. rotational speed 100 rpm Max. speed at 90° 100 rpm Torsional backlash 0.2 deg Repetition accuracy 4.0 1° Position sensing Motor encoder Max. axial force 450 N Max. radial force 550 N Permissible mass moment of inertia 0.0164 kgm² Product weight 2304 g Step angle tolerance 45% Duty cycle 100% Power supply, type of connection Plug Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, unmber of pins/wires 4 Power supply, connection type Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for 10-Link⊕ operation DC nominal voltage 24 V Motor nominal current 5 A Max. current consumption Permissible voltage fluctuations +/-15 %	Type of mounting	With internal thread
Max. rotational speed 100 rpm Max. speed at 90° 100 rpm Torsional backlash 0.2 deg Repetition accuracy ±0.1° Position sensing Motor encoder Max. axial force 450 N Max. radial force 550 N Permissible mass moment of inertia 0.0164 kgm² Product weight 2304 g Step angle with full step 1.8 deg Step angle tolerance ±5% Duty cycle 100% Power supply, type of connection Plug Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, connection pattern 00995989 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection pattern 009959264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5.4	Rotation angle	90°
Max. speed at 90° Torsional backlash O.2 deg Repetition accuracy position sensing Motor encoder Max. axial force 450 N Max. axial force 550 N Permissible mass moment of inertia O.0164 kgm² Product weight 2304 g Step angle with full step 1.8 deg Step angle tolerance ±5% Duty cycle 100% Power supply, type of connection Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, connection technology M2x1, T-coded as per EN 61076-2-101 Logic interface, connection type Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for 10-Link® operation DC nominal voltage Nominal current 5 A Max. current consumption Permissible voltage fluctuations +/-15 %	Gear ratio	7:1
Torsional backlash Repetition accuracy 20.1 ° Position sensing Motor encoder Max. axial force 450 N Max. radial force 550 N Permissible mass moment of inertia 0.0164 kgm² Product weight 2304 g Step angle with full step 1.8 deg Step angle tolerance 25% Duty cycle 100% Power supply, type of connection Power supply, connection pettern Power supply, number of pins/wires 4 Power supply, connection pattern 00995989 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for 10-1-link® operation DC nominal voltage Nominal current 5 A Max. current consumption Permissible voltage fluctuations 4/-15 %	Max. rotational speed	100 rpm
Repetition accuracy Position sensing Motor encoder Max. axial force 450 N Max. radial force 550 N Permissible mass moment of inertia 0.0164 kgm² Product weight 2304 g Step angle with full step 1.8 deg Step angle tolerance 150% Duty cycle 100% Power supply, type of connection Plug Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, connection pattern 00995989 Logic interface, connection type Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, connection pattern 0099264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage Nominal current 5 A Max. current consumption 9 Fermissible voltage fluctuations	Max. speed at 90°	100 rpm
Position sensing Motor encoder Max. axial force 450 N Max. radial force 550 N Permissible mass moment of inertia 0.0164 kgm² Product weight 2304 g Step angle with full step 1.8 deg Step angle tolerance ±5% Duty cycle 100% Power supply, type of connection Plug Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, connection pattern 00995989 Logic interface, connection type Plug Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage Nominal current 5 A Motor nominal current 5 A Max. current consumption 500 mA Permissible voltage fluctuations +/-15 %	Torsional backlash	0.2 deg
Max. axial force 450 N Max. radial force 550 N Permissible mass moment of inertia 0.0164 kgm² 2304 g Step angle with full step 1.8 deg Step angle tolerance ±5% Duty cycle 100% Power supply, type of connection Power supply, connection technology Power supply, connection tethnology M12x1, T-coded as per EN 61076-2-111 Power supply, connection pattern 00995989 Logic interface, connection type Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection tothology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5 A Max. current consumption Permissible voltage fluctuations +/-15 %	Repetition accuracy	±0.1 °
Max. radial force 550 N Permissible mass moment of inertia 0.0164 kgm² 2304 g Step angle with full step 1.8 deg Step angle tolerance ±5% Duty cycle 100% Power supply, type of connection Plug Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, connection pattern 00995989 Logic interface, connection type Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5 A Max. current consumption 5 300 mA Permissible voltage fluctuations +/-15 %	Position sensing	Motor encoder
Permissible mass moment of inertia O.0164 kgm² Product weight Step angle with full step 1.8 deg Step angle tolerance ±5% Duty cycle 100% Power supply, type of connection Plug Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, number of pins/wires 4 Power supply, connection pattern O0995989 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, number of poles/wires 8 Logic interface, connection pattern O0992264 Max. cable length 15 m ontputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5.4 Max. current consumption Permissible voltage fluctuations +/-15 %	Max. axial force	450 N
Product weight Step angle with full step Step angle tolerance ±5% Duty cycle 100% Power supply, type of connection Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, number of pins/wires 4 Power supply, connection pattern 00995989 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, number of poles/wires 8 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage Nominal current 5 A Motor nominal current Max. current consumption Fermissible voltage fluctuations +/- 15 %	Max. radial force	550 N
Step angle with full step Step angle tolerance ±5% Duty cycle 100% Power supply, type of connection Plug Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, number of pins/wires 4 Power supply, connection pattern 00995989 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5 A Max. current consumption 5300 mA Permissible voltage fluctuations +/-15 %	Permissible mass moment of inertia	0.0164 kgm²
Step angle tolerance ±5% Duty cycle 100% Power supply, type of connection Plug Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, number of pins/wires 4 Power supply, connection pattern 00995989 Logic interface, connection type Plug Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, number of poles/wires 8 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5.4 Max. current consumption 5300 mA Permissible voltage fluctuations +/-15 %	Product weight	2304 g
Duty cycle 100% Power supply, type of connection Plug Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, number of pins/wires 4 Power supply, connection pattern 00995989 Logic interface, connection type Plug Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5.4 Max. current consumption 5300 mA Permissible voltage fluctuations +/- 15 %	Step angle with full step	1.8 deg
Power supply, type of connection Plug Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, number of pins/wires 4 Power supply, connection pattern 00995989 Logic interface, connection type Plug Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5 A Max. current consumption Premissible voltage fluctuations +/- 15 %	Step angle tolerance	±5%
Power supply, connection technology Power supply, number of pins/wires 4 Power supply, connection pattern O0995989 Logic interface, connection type Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, connection pattern O0992264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5 A Max. current consumption Fermissible voltage fluctuations M12x1, T-coded as per EN 61076-2-111 4 A M12x1, A-coded as per EN 61076-2-101 8 8 Logic interface, connection pattern 00992264 8 8 A M12x1, A-coded as per EN 61076-2-101 8 A M12x1, A-coded as per EN 61076-2-101 A M12x1, A-coded as per EN 61076-2-101 A M12x1, A-coded as per EN 61076-2-101 B A M12x1, A-coded as per EN 61076-2-101 A M12x1, A-coded as per EN 61076-2-101 B A M12x1, A-coded as per EN 61076-2-101 A M12x1, A-coded as per EN 61076-2-101 B A M12x1, A-coded as per EN 61076-2-101 B A M2x1, A-coded as per EN 61076-2-101 B M2x1, A-coded as	Duty cycle	100%
Power supply, number of pins/wires Power supply, connection pattern O0995989 Logic interface, connection type Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, connection pattern O0992264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5 A Max. current consumption Permissible voltage fluctuations 4 O0995989 Plug M12x1, A-coded as per EN 61076-2-101 8 8 Logic interface, connection pattern 00992264 8 8 A M2x. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation 5.3 A Motor nominal current 5 A Max. current consumption 5300 mA Permissible voltage fluctuations	Power supply, type of connection	Plug
Power supply, connection pattern Logic interface, connection type Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5 A Max. current consumption 5300 mA Permissible voltage fluctuations 10995989 N12x1, A-coded as per EN 61076-2-101 8 4 Noninal current 5 M 5 A 5 A 5 A 5 A 5 A 6 A 7 - 15 %	Power supply, connection technology	M12x1, T-coded as per EN 61076-2-111
Logic interface, connection type Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, number of poles/wires 8 Logic interface, connection pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5 A Max. current consumption 5300 mA Permissible voltage fluctuations +/- 15 %	Power supply, number of pins/wires	4
Logic interface, connection technology Logic interface, number of poles/wires Logic interface, connection pattern Max. cable length Max. cable length DC nominal voltage Nominal current Max. current consumption M12x1, A-coded as per EN 61076-2-101 B Converse of poles/wires 8 15 m outputs 15 m inputs 20 m for IO-Link® operation 24 V Som for IO-Link® operation 5 A Max. current consumption 5 A Max. current consumption 5 A Permissible voltage fluctuations 1	Power supply, connection pattern	00995989
Logic interface, number of poles/wires Logic interface, connection pattern Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5 A Max. current consumption Permissible voltage fluctuations 8 00992264 15 m outputs 15	Logic interface, connection type	Plug
Logic interface, connection pattern Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5 A Max. current consumption Permissible voltage fluctuations 00992264 15 m outputs 15 m ou	Logic interface, connection technology	M12x1, A-coded as per EN 61076-2-101
Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5 A Max. current consumption 5300 mA Permissible voltage fluctuations 15 m outputs 15 m o	Logic interface, number of poles/wires	8
15 m inputs 20 m for IO-Link® operation DC nominal voltage 24 V Nominal current 5.3 A Motor nominal current 5 A Max. current consumption 5300 mA Permissible voltage fluctuations +/- 15 %	Logic interface, connection pattern	00992264
Nominal current 5.3 A Motor nominal current 5 A Max. current consumption 5300 mA Permissible voltage fluctuations +/- 15 %	Max. cable length	15 m inputs
Motor nominal current 5 A Max. current consumption 5300 mA Permissible voltage fluctuations +/- 15 %	DC nominal voltage	24 V
Max. current consumption 5300 mA Permissible voltage fluctuations +/- 15 %	Nominal current	5.3 A
Permissible voltage fluctuations +/- 15 %	Motor nominal current	5 A
	Max. current consumption	5300 mA
Number of digital logic inputs 2	Permissible voltage fluctuations	+/- 15 %
	Number of digital logic inputs	2

Feature	Value
Characteristics of logic input	Configurable
	Not galvanically isolated
Logic input specification	Based on IEC 61131-2, type 1
Work range of logic input	24 V
Input switching logic	PNP (positive switching)
Number of digital logic outputs 24 V DC	2
Characteristics of digital logic outputs	Configurable Not galvanically isolated
Max. current of digital logic outputs	100 mA
Switching logic at outputs	PNP (positive switching)
IO-Link®, SIO mode support	Yes
IO-Link®, protocol version	Device V 1.1
IO-Link®, communication mode	COM3 (230.4 kBd)
IO-Link®, port class	A
IO-Link®, number of ports	1
IO-Link®, process data width OUT	2 Byte
IO-Link®, process data content OUT	Move in 1 bit
	Move out 1 bit Ouit Error 1 bit
	Move Intermediate 1 bit
IO-Link®, process data width IN	2 Byte
IO-Link®, process data content IN	State In 1 bit
	State Out 1 bit
	State Move 1 bit State Device 1 bit
	State Intermediate 1 bit
IO-Link®, service data contents IN	32 bit force
·	32 bit position
	32 bit speed
IO-Link®, minimum cycle time	1 ms
IO-Link®, data memory required	500 byte
IO-Link®, Connection technology	Plug
Parameterization interface	IO-Link® User interface
Insulation protection class	В
Motor type	Stepper motor
Rotor position sensor	Absolute encoder, single-turn
Rotor position sensor measuring principle	Magnetic
Rotor position sensor resolution	16 bit
Homing	Fixed stop block positive Fixed stop block, negative
Protective function	Temperature monitoring
Additional functions	User interface Integrated end-position sensing
Display	LED
Ready status indication	LED
Symbol	00997295
Angular acceleration	≤140 rad/s²
Certification	RCM compliance mark
KC characters	KC EMC
CE marking (see declaration of conformity)	As per EU EMC directive As per EU RoHS directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC
,,,	To UK RoHS instructions
Peak torque	5.6 Nm

Feature	Value
Protection class	III
Storage temperature	-20 °C 60 °C
Ambient temperature	0 ℃ 50 ℃
Note on ambient temperature	Above an ambient temperature of 30°C, the power must be reduced by 2% per K.
Relative air humidity	0 - 85 %
Vibration resistance	Transport application test with severity level 1 as per FN 942017-4 and EN 60068-2-6
Shock resistance	Shock test with severity level 1 as per FN 942017-5 and EN 60068-2-27
LABS (PWIS) conformity	VDMA24364 zone III
Note on materials	RoHS-compliant
Material of flange	Wrought aluminum alloy, anodized
Housing material	Wrought aluminum alloy, anodized
Speed "Speed Press"	2 m/s
Logic max. current consumption	0.3 A
Maintenance interval	Life-time lubrication