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

FESTO

Part number: 8087821





General operating condition

Size Structural design Electromechanical rotary actuator 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 50° 100 rpm Torsional backlash 0.2 deg Repetition accuracy 90° Mounting Motor encoder Max. axial force 450 N Max. radial force 450 N Max. radial force 950 N Permissible mass moment of inertia 0.0164 kgm² Product weight 2304 g Step angle with full step 1.8 deg 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, connection technology M12x1, T-coded as per EN 61076-2-101 Logic interface, connection type Plug Logic interface, connection type Logic interface, connection pattern Logic interface, connection pattern Max. cable length 15 m outputs 15 m inputs 16 m inputs 17 m inputs 18 m inputs 18 m inputs 19 m inputs 10 m inputs 10 m inputs 10 m inputs 11 m inputs 12 m inputs 13 m inputs 14 m inputs 15 m inputs 15 m inputs 17 m inputs 18 m inputs 18 m inputs 19 m inputs 10 m inputs 10 m inputs 10 m inputs 11 m inputs 12 m inputs 13 m inputs 14 m inputs 15 m inputs 15 m inputs 17 m inputs 18 m inputs 19 m inputs 10 m inputs 10 m inputs 11 m inputs 11 m inputs 12 m inputs 13 m inputs 14 m inputs 15 m inputs 17 m inputs 18 m inputs 19 m inputs 19 m inputs 19 m inputs 10 m inputs 11 m inputs 11 m inputs 12 m inputs 13 m inputs 14 m inputs 15 m inputs 16 m inputs 17 m inputs 18 m inputs 18 m inputs 19 m inputs 19 m inputs 10 m inputs 10 m inputs 10 m inputs 10 m inputs 1	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 10.1° Position sensing Motor encoder Max. radial force 450 N Max. radial force 450 N Max. radial force 550 N Permissible mass moment of inertia 0.0164 kgm² Product weight 2304 g Step angle tolerance 15% Duty cycle 100% Power supply, type of connection Power supply, type of connection 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 pattern 00992264 Max. cable length 15 m outputs 15 m inputs 20 m for 10-Link® operation DC nominal voltage 15 A Max. current consumption 15 300 mA Permissible voltage fluctuations +/-15 %	Size	32
Type of mounting Rotation angle 90° Gear ratio 7:1 Max. rotational speed 100 rpm Torsional backlash 0.2 deg Repetition accuracy Position sensing Motor encoder Max. axial force Max. axial force 450 N Max. radial 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% Duty cycle Duty cycle Duty cycle Power supply, type of connection Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, unmber of pins/wires 4 Power supply, connection pattern 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 Permissible voltage fluctuations 4/-15 % Max. cable length 15 m on minal current 5 A Max. cable fluctuations	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, T-coded as per EN 61076-2-111 Power supply, connection pattern 0.0995989 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection pattern 0.0992264 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 %	Mounting position	Any
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 #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 00995989 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, connection pattern 00992264 Max. cable length 15 m inputs 20 m for IO-Link® operation DC nominal voltage 124 V Nominal current 5.3 A Max. current consumption 5300 mA 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 type Plug Logic interface, connection type Plug 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 5.3 A Motor nominal current 5.3 Max. current	Rotation angle	90°
Max. speed at 90° Torsional backlash 0.2 deg Repetition accuracy Position sensing Motor encoder Max. axial force Max. axial force Max. axial force Permissible mass moment of inertia Product weight 2304 g Step angle with full step 1.8 deg Step angle tolerance buty cycle 100% Power supply, type of connection Power supply, connection technology M12x1, T-coded as per EN 61076-2-111 Power supply, connection type Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 Logic interface, ounser 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 Motor nominal current 5 A Max. current consumption 5300 mA Permissible voltage fluctuations	Gear ratio	7:1
Torsional backlash 0.2 deg 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 15% 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 Nominal current 5 A Max. current consumption Fermissible voltage fluctuations	Max. rotational speed	100 rpm
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 15% 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, connection pattern 0099264 Max. cable length 15 m outputs 15 m inputs 20 m for IO-Link® operation DC nominal voltage Norman 530 mA Max. current consumption 5300 mA Permissible voltage fluctuations + /-15 %	Max. speed at 90°	100 rpm
Position sensing 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 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 Nat. current 5.3 A Motor nominal current 5.4 Max. current consumption 4/-15 %	Torsional backlash	0.2 deg
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 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 Plug 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 %	Repetition accuracy	±0.1 °
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 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, 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 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 %	Position sensing	Motor encoder
Permissible mass moment of inertia D.0164 kgm² Product weight 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, 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 24 V Nominal current 5.3 A Motor nominal current 5 A Max. current consumption Permissible voltage fluctuations +/-15 %	Max. axial force	450 N
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, 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 %	Max. radial force	550 N
Step angle with full step Step angle tolerance bt% 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, 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 Max. current consumption Permissible voltage fluctuations 1.8 deg 1.8 deg 45% M12x1, T-coded as per EN 61076-2-111 00995989 Logic interface, connection technology M12x1, A-coded as per EN 61076-2-101 B To outputs 15 m inputs 20 m for IO-Link® operation 5 A Max. current consumption 5 300 mA Permissible voltage fluctuations +/- 15 %	Permissible mass moment of inertia	0.0164 kgm²
Step angle tolerance±5%Duty cycle100%Power supply, type of connectionPlugPower supply, connection technologyM12x1, T-coded as per EN 61076-2-111Power supply, number of pins/wires4Power supply, connection pattern00995989Logic interface, connection typePlugLogic interface, connection technologyM12x1, A-coded as per EN 61076-2-101Logic interface, number of poles/wires8Logic interface, connection pattern00992264Max. cable length15 m outputs 15 m inputs 20 m for IO-Link® operationDC nominal voltage24 VNominal current5.3 AMotor nominal current5 AMax. current consumption5300 mAPermissible 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 A 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 5300 mA Permissible voltage fluctuations +/-15 %	Step angle tolerance	±5%
Power supply, connection technology Power supply, number of pins/wires 4 Power supply, connection pattern Logic interface, connection type Logic interface, connection technology Logic interface, number of poles/wires Logic interface, number of poles/wires Logic interface, connection pattern O0992264 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 Permissible voltage fluctuations M12x1, T-coded as per EN 61076-2-111 4 No995989 N12x1, A-coded as per EN 61076-2-101 8 Logic interface, connection pattern 00992264 No15 m outputs 15 m inputs 20 m for IO-Link® operation 5 A Max. current 5 A Max. current consumption 5300 mA Permissible voltage fluctuations	Duty cycle	100%
Power supply, number of pins/wires Power supply, connection pattern O0995989 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 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 4 O0995989 Plug M12x1, A-coded as per EN 61076-2-101 8 8 Logic interface, connection pattern 00992264 8 A Motor nominal current 5.3 A Motor nominal current 5.3 A Max. current consumption 5300 mA Permissible voltage fluctuations	Power supply, type of connection	Plug
Power supply, connection pattern 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 Fermissible voltage fluctuations 00995989 M12x1, A-coded as per EN 61076-2-101 8 8 Logic interface, connection pattern 00992264 8 A M12x1, A-coded as per EN 61076-2-101 B M12x1, A-coded as per EN 61076-2-	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 5 A Permissible voltage fluctuations +/- 15 %	Power supply, number of pins/wires	4
Logic interface, connection technology Logic interface, number of poles/wires Rogic 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 M12x1, A-coded as per EN 61076-2-101 8 Logic interface, connection technology 15 m outputs 5 A Nominal current 5 A Max. current consumption 5300 mA +/- 15 %	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 m inputs 20 m for IO-Link® operation 5 A 5 A Motor nominal current 5 A Max. current consumption 5300 mA +/- 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 15 m outputs 15 m outputs 15 m outputs 15 m inputs 20 m for IO-Link® operation 5 A Motor Nominal current 5 A Max. current consumption 5 300 mA +/- 15 %	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 Fermissible voltage fluctuations 15 m outputs 16 m outputs 17 m outputs 18 m outputs 18 m outputs 19	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 5 and Permissible voltage fluctuations 15 m inputs 20 m for IO-Link® operation 5.3 A	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	Permissible voltage fluctuations	+/- 15 %
מעוווטכו עו עוקונעו ועקוב ווויףענט 2	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 Quit Error 1 bit Move Intermediate 1 bit
IO-Link®, process data width IN	2 Byte
IO-Link®, process data content IN	State Device 1 bit State In 1 bit State Intermediate 1 bit State Move 1 bit State Out 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
Interface code, base	E8-55

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