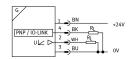
Position transmitter SDAT-MHS-M160-1L-SV-E-0.3-M8

Part number: 8115398







Data sheet

Feature	Value
Design	For T-slot
Approval	RCM trademark c UL us listed (OL)
CE mark (see declaration of conformity)	To EU EMC Directive
CE marking (see declaration of conformity)	To UK instructions for EMC
Note on materials	RoHS-compliant Free of halogen
Instructions on use	https://www.festo.com/Drive-Sensor-Overview
Measured variable	Position
Measuring principle	Magnetic Hall
Sensing range	0 mm160 mm
Ambient temperature	-25 °C70 °C
Typical sampling interval	1 ms
Max. travel speed	3 m/s
Displacement resolution	0.05 mm
Repetition accuracy	0.1 mm
Switching output	PNP
Switching element function	N/C or N/O contact, switchable
Switch-on time	2 ms
Switch-off time	2 ms
Max. switching frequency	1 kHz
Max. output current	100 mA
Max. switching capacity DC	2.7 W
Voltage drop	2.5 V
Analogue output	0 - 10 V
Sensitivity	0.056 V/mm
Typical linearity error	±0.25 mm
Min. load resistance voltage output	20 kOhm
Short circuit current rating	yes
Overload protection	Available
Protocol	I-Port IO-Link®

Do-Link, Protocol version Device V 1.1	Feature	Value
Binary data channel (BPC) Process data variable (PBV) Identification Binary data channel (BPC) Process data variable (PBV) Identification Binary data channel (BPC) Process data variable (PBV) Identification Binary data channel (BPC) Process data variable (PBV) Identification Binary data channel Identi	IO-Link, Protocol version	Device V 1.1
Process data variable (PDV) Identification Diagnostics Teach channel	IO-Link, Profile	Smart sensor profile
IO Link, Flor Andreas IO Link, Process data length IN 2 bytes	IO-Link, Function classes	Process data variable (PDV) Identification Diagnostics
IO-Link, Process data length IN 2 bytes	IO-Link, communication mode	COM3 (230.4 kBaud)
IO-Link, Process data centent IN	IO-Link, SIO-Mode support	Yes
O Link, Process data content N	IO-Link, Port class	А
A bit BDC (position monitoring)	IO-Link, Process data length IN	2 bytes
Operational voltage range DC Residual ripple 10 % Reverse polarity protection Electrical connection 1, connection type Cable with plug Electrical connection 1, connector system M8x1, A-coded, to EN 61076-2-104 Electrical connection 1, type of mounting Screw-type lock Connection outlet orientation In line Connection outlet orientation Material electrical contact Copper alloy Bronze Test conditions cable Bending strength: to Festo standard Torsional resistance: 300,000 cycles, 2:270°/0.1 m Energy chain: > 5 million cycles, bending radius 28 mm Cable characteristic Suitable for energy chains/robot applications Type of mounting Screw-type lock Cable sheath colour grey Material cable sheath TPE-U(PUR) Mounting position Optional Mounting position Optional Material housing Brass, nickel-plated PA-reinforced Polyester Ready status indication Red LED Seatus indication Red LED Setting options Field Setting options Anbient temperature with moving cable Degree of protection PGS UANA2364-B2-L VDMA24364-B2-L VDMA24364-B2-L Volume benefition in the sterical point of the circuit bands, cables, electrical plug connectors and colisi	IO-Link, Process data content IN	
Residual ripple Reverse polarity protection En all electrical connections Electrical connection 1, connector type Electrical connection 1, connector system Mast, A-coded, to EN 61076-2-104 Electrical connection 1, number of connections/cores 4 Electrical connection 1, number of connections/cores 4 Electrical connection 1, number of connections/cores 4 Electrical connection 1, type of mounting Screw-type lock Connection outled orientation In-line Material electrical contact Copper alloy Bronze Test conditions cable Bending strength: to Festo standard Torsional resistance: 300,000 cycles, 270°/0.1 m Energy chain: > 5 million cycles, bending radius 28 mm Cable length O.3 m Cable characteristic Suitable for energy chains/robot applications Cable sheath colour grey Material clabe sheath TPE-U/PUR) Type of mounting Screw-clamped Insertable in the slot from above Mounting position Optional Product weight 35 g Material housing Product weight Brass, nickel-plated Pra-inforced Polyester High-alloy stainless steel Material foil Polyester High-alloy stainless steel Material foil Polyester High-sulpy stainless steel Material foil Polyester Status indication Vellow LED Status indication Ped LED Switching status indication Ped LED Setting options U-link® Pushbutton Ambient temperature with moving cable Pegree of protection Pegs of protection Pegs of protection Pegs of protection Material with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and colls.	IO-Link, Min. cycle time	1 ms
Reverse polarity protection Electrical connection 1, connection type Electrical connection 1, connection system Max1, A-coded, to EN 61076-2-104 Electrical connection 1, tonnection system Max2, A-coded, to EN 61076-2-104 Electrical connection 1, type of mounting Screw-type lock Connection 1, type of mounting Screw-type lock Connection outlet orientation In-line Material electrical contact Copper alloy Bronze Test conditions cable Bending strength: to Festo standard Torsional resistance: > 300,000 cycles, ± 270°/0.1 m Energy chain: > 5 million cycles, bending radius 28 mm Cable length Cable length Cable sheath colour grey Material cable sheath TPE-U(PUR) Type of mounting Screw-clamped Insertable in the slot from above Mounting position Optional Product weight Material housing Brass, nickel-plated PA-reinforced Polyester High-alloy stainless steel Material union nut Mickel-plated brass Material union nut Material union nut Material stain indication Green LED Switching status indication Red LED Switching status indication Ret LED Setting options IO-Link® Pushbutton Ambient temperature with moving cable Degree of protection Ple5s UMA24364-B2-L Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Operational voltage range DC	15 V30 V
Electrical connection 1, connection type Electrical connection 1, connector system M8x1, A-coded, to EN 61076-2-104 Electrical connection 1, type of mounting Connection 1, type of mounting Screw-type lock Electrical contection 1, type of mounting Connection outlet orientation In line Material electrical contact Copper alloy Bronze Test conditions cable Bending strength: to Festo standard Torsional resistance: 300,000 cycles, ± 270°/0.1 m Energy chain: > 5 million cycles, bending radius 28 mm Cable length 0.3 m Cable enart cristic Cable sheath Olour grey Material cable sheath TPE-U(PUR) Type of mounting Screw-clamped Insertable in the slot from above Mounting position Product weight 35 g Material housing Brass, nickel-plated PA-reinforced	Residual ripple	10 %
Electrical connection 1, connector system M8x1, A-coded, to EN 61076-2-104 Electrical connection 1, type of mounting Screw-type lock Compercion outlet orientation In-line Material electrical contact Test conditions cable Test conditions cable Bending strength: to Festo standard	Reverse polarity protection	For all electrical connections
Electrical connection 1, number of connections/cores Electrical connection 1, type of mounting Screw-type lock Connection outlet orientation Material electrical contact Copper alloy Bending strength: to Festo standard Torsional resistance: > 300,000 cycles, a 270°/0.1 m Energy chain: > 5 million cycles, bending radius 28 mm Cable length O.3 m Cable length O.3 m Cable sheath colour grey Material cable sheath TPE-U(PUR) Type of mounting Screw-clamped Insertable in the slot from above Mounting position Product weight 35 g Brass, nickel-plated PA-reinforced Polyester High-alloy stainless steel Material foil Ready status indication Switching status indication Setting options Anbient temperature with moving cable LABS (PWIS) conformity Mounting for mounting Labs (PWIS) conformity MDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are	Electrical connection 1, connection type	Cable with plug
Electrical connection 1, type of mounting Connection outlet orientation Material electrical contact Material electrical contact Est conditions cable Test conditions cable Bending strength: to Festo standard Iorsional resistance: > 300,000 cycles, ± 270°/0.1 m Energy chain: > 7 million cycles, bending radius 28 mm Cable length O.3 m Cable length Suitable for energy chains/robot applications Cable sheath colour Brey Material cable sheath TPE-U(PUR) Type of mounting Screw-clamped Insertable in the slot from above Mounting position Optional Product weight 35 g Material housing Pre-reinforced Polyester High-alloy stainless steel Material union nut Nickel-plated brass Material foil Polyester High-alloy stainless steel Material stidication Switching status indication Switching status indication Red LED Setting options Ambient temperature with moving cable Degree of protection Degree of protection Degree of protection Degree of protection of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated printed circuit boards, cables, electrical plug connectors and coils	Electrical connection 1, connector system	M8x1, A-coded, to EN 61076-2-104
Connection outlet orientation Material electrical contact Copper alloy Bronze Test conditions cable Bending strength: to Festo standard Torsingal registance: 300,000 cycles, ± 270°/0.1 m Torsingal registance: 300,000 cycles, ± 270°/0.1 m Torsingal registance: 300,000 cycles, bending radius 28 mm Cable length 0.3 m Cable length 0.3 m Cable characteristic Suitable for energy chains/robot applications Cable sheath colour grey Material cable sheath TPE-U/PUR) Serew-Clamped Insertable in the slot from above Mounting position Optional Material housing Brass, nickel-plated PA-reinforced Polyester High-alloy stainless steel Material nion nut Nickel-plated brass Material foil Polyester Ready status indication Switching status indication Setting options Material diction Pellow LED Status indication Red LED Setting options Ambient temperature with moving cable 1-20°C70°C Degree of protection Pie6s Pie6s Metals with more than 1% copper, zinc or nickel by mass are excluded from usee. Expertion sare nickel, sables, electrical plug connectors and coils	Electrical connection 1, number of connections/cores	4
Material electrical contact Test conditions cable Bending strength: to Festo standard torsional resistance: 300,000 cycles, ± 270°/0.1 m Energy chain: 5 million cycles, bending radius 28 mm Cable length O.3 m Cable characteristic Suitable for energy chains/robot applications grey Material cable sheath TPE-UPUR) Type of mounting Screw-clamped Insertable in the slot from above Mounting position Product weight 35 g Material housing Material union nut Mickel-plated PAr-einforced Polyester High-alloy stainless steel Material foil Polyester Ready status indication Status indication Setting options Ambient temperature with moving cable Degree of protection LABS (PWIS) conformity Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Electrical connection 1, type of mounting	Screw-type lock
Bronze Test conditions cable Test conditions cable Bending strength: 10 Festo standard Torsional resistance: 3 300,000 cycles, ± 270°/0.1 m Energy chain: 5 million cycles, bending radius 28 mm Cable length O.3 m Cable characteristic Suitable for energy chains/robot applications Cable sheath colour Material cable sheath TPE-U(PUR) Type of mounting Screw-clamped Insertable in the slot from above Mounting position Product weight 35 g Material housing Brass, nickel-plated PA-reinforced Polyester High-alloy stainless steel Material union nut Material union nut Mickel-plated brass Material foil Polyester Ready status indication Green LED Switching status indication Fed LED Status indication Red LED Setting options Ol-Link® Pushbutton Ambient temperature with moving cable 20 °C70 °C Degree of protection IP65 IP68 LABS (PWIS) conformity VOMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Connection outlet orientation	In-line
Torsional resistance: > 300,000 cycles, ± 270°/0.1 m Energy chain: > 5 million cycles, bending radius 28 mm Cable length Cable characteristic Suitable for energy chains/robot applications Cable sheath colour grey Material cable sheath TPE-U(PUR) Type of mounting Mounting position product weight 35 g Material housing Material housing Material housing Material housing Material union nut Mickel-plated PA-reinforced Polyester High-alloy stainless steel Material foil Polyester Ready status indication Status indication Status indication Setting options Moulting setting options Mounting position Polyester Ready status indication Red LED Setting options Do-Link® Pushbutton Ambient temperature with moving cable 20°C70°C Degree of protection IP65 IP65 IP65 IP65 IP65 IP65 IP65 IP6	Material electrical contact	,,, ,
Cable characteristic Cable sheath colour grey Material cable sheath TPE-U(PUR) Type of mounting Screw-clamped Insertable in the slot from above Mounting position Product weight 35 g Material housing Material union nut Mickel-plated brass Material foil Ready status indication Setting status indication Setting options Setting options Setting options Degree of protection Degree of protection LABS (PWIS) conformity Suitability for the production of Li-ion batteries Metal a minus prevent in the slot from above Sitaus indication suit else in the slot from above Mounting position Optional Serew-clamped Insertable in the slot from above Apreving above Serew-clamped Insertable in the slot from above Optional Brass, nickel-plated Pass Brass, nickel-plated Pass Brass, nickel-plated brass Brass, nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Test conditions cable	Torsional resistance: > 300,000 cycles, ± 270°/0.1 m
Cable sheath colour Material cable sheath TPE-U(PUR) Screw-clamped Insertable in the slot from above Mounting position Product weight As g Material housing Material housing Material union nut Mickel-plated PA-reinforced Polyester High-alloy stainless steel Material foil Polyester Ready status indication Status indication Setting options Vellow LED Status indication Red LED Setting options IO-Link® Pushbutton Ambient temperature with moving cable -20 °C70 °C Degree of protection IP65 IP68 LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Cable length	0.3 m
Material cable sheath TPE-U(PUR) Type of mounting Screw-clamped Insertable in the slot from above Mounting position Product weight 35 g Material housing Material housing Material union nut Michel-plated PA-reinforced Polyester High-alloy stainless steel Material foil Ready status indication Green LED Switching status indication Yellow LED Status indication Red LED Status indication Red LED Setting options IO-Link® Pushbutton Ambient temperature with moving cable Degree of protection Ple65 Ple68 LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Cable characteristic	Suitable for energy chains/robot applications
Type of mounting Screw-clamped Insertable in the slot from above Mounting position Product weight Material housing Material housing Material union nut Mickel-plated PA-reinforced Polyester High-alloy stainless steel Material foil Polyester Ready status indication Green LED Switching status indication Yellow LED Status indication Red LED Setting options Mounting options Ambient temperature with moving cable Degree of protection LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Cable sheath colour	grey
Insertable in the slot from above	Material cable sheath	TPE-U(PUR)
Product weight Material housing Material housing Material housing Material union nut Mickel-plated PA-reinforced Polyester High-alloy stainless steel Material foil Polyester Ready status indication Green LED Switching status indication Yellow LED Status indication Red LED Setting options IO-Link® Pushbutton Ambient temperature with moving cable -20 °C70 °C Degree of protection LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Type of mounting	· ·
Material housing Material union nut Material union nut Mickel-plated brass Material foil Ready status indication Switching status indication Setting options Mabient temperature with moving cable Degree of protection LABS (PWIS) conformity Wellaw LED Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Mounting position	
PA-reinforced Polyester High-alloy stainless steel Material union nut Mickel-plated brass Material foil Polyester Ready status indication Green LED Switching status indication Yellow LED Setting options IO-Link® Pushbutton Ambient temperature with moving cable -20 °C70 °C Degree of protection IP65 IP68 LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Product weight	35 g
Material foil Polyester Ready status indication Green LED Switching status indication Yellow LED Status indication Red LED Setting options IO-Link® Pushbutton Ambient temperature with moving cable -20 °C70 °C Degree of protection IP65 IP68 LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Wetalas with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Material housing	PA-reinforced Polyester
Ready status indication Switching status indication Yellow LED Status indication Red LED Setting options IO-Link® Pushbutton Ambient temperature with moving cable -20 °C70 °C Degree of protection IP65 IP68 LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Material union nut	Nickel-plated brass
Switching status indication Setting options IO-Link® Pushbutton Ambient temperature with moving cable -20 °C70 °C Degree of protection IP65 IP68 LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Material foil	Polyester
Status indication Red LED Setting options IO-Link® Pushbutton Ambient temperature with moving cable -20 °C70 °C Degree of protection IP65 IP68 LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Ready status indication	Green LED
Setting options IO-Link® Pushbutton Ambient temperature with moving cable -20 °C70 °C Degree of protection IP65 IP68 LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Switching status indication	Yellow LED
Pushbutton Ambient temperature with moving cable -20 °C70 °C Degree of protection IP65 IP68 LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Status indication	Red LED
Degree of protection IP65 IP68 LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Setting options	
LABS (PWIS) conformity VDMA24364-B2-L Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Ambient temperature with moving cable	-20 °C70 °C
Suitability for the production of Li-ion batteries Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	Degree of protection	
from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	LABS (PWIS) conformity	VDMA24364-B2-L
Cleanroom class Class 4 according to ISO 14644-1	Suitability for the production of Li-ion batteries	from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and
	Cleanroom class	Class 4 according to ISO 14644-1