### DATASHEET - LSR-S02-1-I/TS



Hinge-operated safety switch, LSR, Safety hinge switch, Complete unit, 2 NC, Insulated material, Screw terminal, -25 - +70 °C



Part no.LSR-S02-1-I/TSCatalog No.106852Alternate CatalogLSR-S02-1-I/TSNo.EL-Nummer4356192(Norway)

## **Delivery program**

benvery program		
Basic function		Position switches Safety position switches
Part group reference		LSR
Product range		Safety hinge switch
Degree of Protection		IP65
Features		Complete unit
Ambient temperature	°C	-25 - +70
Approval		ET 17042 Sicherheit geprüft tested safety
Contacts		
N/C = Normally closed		2 NC 🕀
Notes		$\Theta$ = safety function, by positive opening to IEC/EN 60947-5-1
Contact sequence		<b>o</b> <i>fffffff</i>
Contact travel = Contact closed = Contact open		$ \begin{array}{c}             0^{\circ} \\             21 - 22 \\             11 - 12 \\             180^{\circ} \\             Zw = 10^{\circ} \end{array} $ $ \begin{array}{c}             180^{\circ} \\             Zw = 10^{\circ} \end{array} $
Housing		Insulated material
Connection type		Screw terminal

## **Technical data**

General		
Standards		IEC/EN 60947
Climatic proofing		Damp heat, constant, to IEC 60068-2-78; damp heat, cyclical, to IEC 60068-2-30
Ambient temperature	°C	°C -25 - +70
Mounting position		As required
Degree of Protection		IP65
Terminal capacities	m	mm <sup>2</sup>
Solid	m	mm <sup>2</sup> 1 x (0.75 - 2.5) 2 x (0.75 - 1.5)
Flexible with ferrule	m	mm <sup>2</sup> 1 x (0.5 - 1.5) 2 x (0.5 - 1.5)
Repetition accuracy	m	mm 0.02

#### **Contacts/switching capacity**

Contacts/switching capacity			
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	6000
Rated insulation voltage	Ui	V	500
Rated operational current	le	А	
AC-15			
24 V	l <sub>e</sub>	А	6
220 V 230 V 240 V	l <sub>e</sub>	А	6
380 V 400 V 415 V	l <sub>e</sub>	А	4
DC-13			
24 V	l <sub>e</sub>	А	3
110 V	le	А	0.8
220 V	l <sub>e</sub>	А	0.3
Supply frequency		Hz	max. 400
Short-circuit rating to IEC/EN 60947-5-1			
max. fuse		A gG/gL	6
Rated conditional short-circuit current		kA	1
Mechanical variables			
Lifespan, mechanical	Operations	x 10 <sup>6</sup>	1
Mechanical shock resistance (half-sinusoidal shock, 20 ms)			
Standard-action contact		g	25
Operating frequency	Operations/h		≦ 1800

### Design verification as per IEC/EN 61439

Design vermication as per IEC/EN 01439			
Technical data for design verification			
Rated operational current for specified heat dissipation	I <sub>n</sub>	А	6
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0.13
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0
Heat dissipation capacity	P <sub>diss</sub>	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.
10.8 Connections for external conductors			Is the panel builder's responsibility.
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage			Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material			Is the panel builder's responsibility.
10.10 Temperature rise			The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating			Is the panel builder's responsibility. The specifications for the switchgear must be observed.

10.13 Mechanical function

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

#### **Technical data ETIM 7.0**

Sensors (EG000026) / Hinge switch (EC002591)

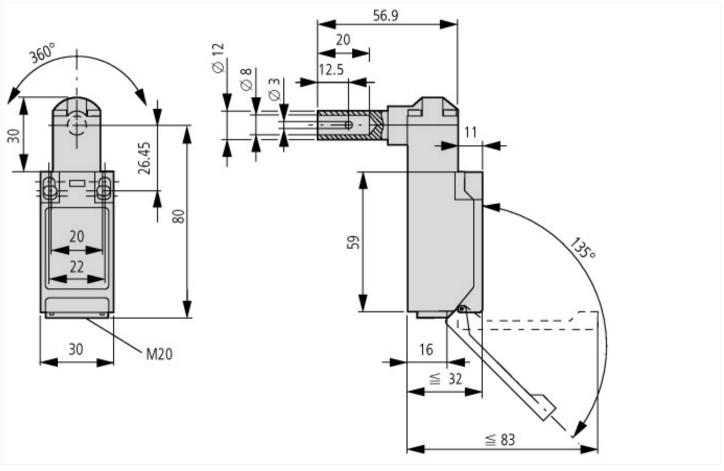
Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Position switch / Hinge switch (ecl@ss10.0.1-27-27-06-09 [ACN833011])

With status indicationNoSuitable for safety functionsYesType of control elementHollow shaftForced opaningYesNumber of contacts as normally colsed contactONumber of contacts as charge-over contactONumber of contact as charge-over contactNumber of contactNumber of contact as charge-over contactNumber			
Tpe of controlImage: Section of the secti	With status indication		No
Forced opening       Image: Section of the section of th	Suitable for safety functions		Yes
Number of safety auxiliary contacts       Imper of contacts as normally closed contact       Imper of contacts as normally closed contact         Number of contacts as normally closed contact       Imper of contacts as normally closed contact       Imper of contacts as normally closed contact         Number of contacts as normally closed contact       Imper of contacts as normally closed contact       Imper of contacts as change-over contact       Imper of contacts       Imper of contacts <t< td=""><td>Type of control element</td><td></td><td>Hollow shaft</td></t<>	Type of control element		Hollow shaft
Number of contacts as normally closed contact         Image: Contact as normally closed contact         Image: Contac	Forced opening		Yes
Number of contacts as normally open contact         Mumber of contacts as change-over contact         Mumber of contacts         Mumber of contac	Number of safety auxiliary contacts		0
Number of contacts as change-over contact       Image of switching contact       Solv-action switch         Yidth sensor       mm       30         Height of sensor       mm       31         Length of sensor       mm       32         Rated operation current le at AC-15, 24V       A       10         Rated operation current le at AC-15, 25V       A       32         Rated operation current le at AC-15, 25V       A       0         Rated operation current le at AC-15, 25V       A       32         Rated operation current le at AC-15, 25V       A       0         Rated operation current le at AC-15, 25V       A       32         Rated operation current le at AC-15, 25V       A       0         Rated operation current le at DC-13, 24V       A       32         Rated operation current le at DC-13, 25V       A       1         Rated operation current le at DC-13, 25V       A       5         Rated operation current le at DC-13, 25V       A       9         Rated operation current le at DC-13, 25V       A       9         Rated operation current le at DC-13, 25V       A       9         Rated operation current le at DC-13, 25V       A       9         Rater operation current le at DC-13, 25V       C       10	Number of contacts as normally closed contact		2
Type of switching contactImage of the sensorSow-action switchWidth sensormm0Height of sensormm0Length of sensormm2Rated operation current le at AC-15,24 VA0Rated operation current le at AC-15,250 VA0Rated operation current le at AC-15,230 VA0Rated operation current le at DC-13,24 VA0Rated operation current le at DC-13,25 VA0Rated operation current le at DC-13,25 VA0Rated operation current le at DC-13,26 VA0Rated operation current le at DC-13,28 VAMRated operation current le at DC-13,28 VMMRated operation current le at DC-13,28 VM <td>Number of contacts as normally open contact</td> <td></td> <td>0</td>	Number of contacts as normally open contact		0
Width sensor         mm         30           Height of sensor         mm         91           Length of sensor         mm         32           Rated operation current let AC-15,24V         A         0           Rated operation current let AC-15,25V         A         0           Rated operation current let AC-15,23V         A         0           Rated operation current let DC-13,24V         A         0           Rated operation current let DC-13,23V         A         0           Matrial housing         A         0         5           Construction type housing         M         Merid         Merid           Matrial housing         F         Merid         Sole entry metrical           Type of electric connection         M         Merid         Sole entry metrical           Stape of sole entry metrical         Mone         Merid         Merid <td>Number of contacts as change-over contact</td> <td></td> <td>0</td>	Number of contacts as change-over contact		0
Height of sensor       mm       9         Length of sensor       mm       32         Rated operation current le at AC-15, 24 V       A       0         Rated operation current le at AC-15, 25 V       A       0         Rated operation current le at AC-15, 23 V       A       0         Rated operation current le at DC-13, 24 V       A       0         Rated operation current le at DC-13, 24 V       A       0         Rated operation current le at DC-13, 24 V       A       0         Rated operation current le at DC-13, 24 V       A       0         Rated operation current le at DC-13, 24 V       A       0         Rated operation current le at DC-13, 24 V       A       0         Rated operation current le at DC-13, 24 V       A       0         Rated operation current le at DC-13, 24 V       A       0         Rated operation current le at DC-13, 25 V       A       0         Rated operation current le at DC-13, 26 V       A       0         Rated operation current le at DC-13, 26 V       A       0         Rated operation current le at DC-13, 26 V       A       0         Rated operation current le at DC-13, 26 V       A       0         Rated operation current le at DC-13, 26 V       A       0	Type of switching contact		Slow-action switch
Length of sensor       mm       32         Rated operation current le at AC-15, 24 V       A       10         Rated operation current le at AC-15, 125 V       A       0         Rated operation current le at AC-15, 230 V       A       6         Rated operation current le at DC-13, 24 V       A       3         Rated operation current le at DC-13, 25 V       A       9         Rated operation current le at DC-13, 25 V       A       9         Rated operation current le at DC-13, 25 V       A       9         Rated operation current le at DC-13, 25 V       A       9         Rated operation current le at DC-13, 26 V       A       9         Rated operation current le at DC-13, 26 V       A       9         Rated operation current le at DC-13, 26 V       A       9         Construction type housing       A       9       9         Material housing       A       9       9         Coating housing       Patici       Patici         Type of electric connection       Coating housing       Cable entry metrical         Type of electric connection       None       None	Width sensor	mm	30
Rated operation current le at AC-15, 24 VA0Rated operation current le at AC-15, 125 VA0Rated operation current le at AC-15, 230 VA6Rated operation current le at DC-13, 24 VA3Rated operation current le at DC-13, 125 VA1Rated operation current le at DC-13, 230 VA0.5Construction type housingA0.5Material housingPlatticDisticType of electric connectionConstruction type housingOtherType of electric connectionConstruction type housingOtherType of electric connectionConstruction type housingOtherType of electric connectionConstruction type housingConstruction type housingType of ele	Height of sensor	mm	91
Rated operation current le at AC-15, 125 V       A       0         Rated operation current le at AC-15, 230 V       A       6         Rated operation current le at DC-13, 24 V       A       3         Rated operation current le at DC-13, 125 V       A       1         Rated operation current le at DC-13, 230 V       A       5         Construction type housing       Cuboid       Pastic         Naterial housing       Cuboid       Pastic         Type of electric connection       Cuboid       Cuboid         Fype of electric connection       Cuboid       Cuboid         Explosion safety category for gas       Cuboid       Cuboid	Length of sensor	mm	32
Rated operation current le at AC-15, 230 VA6Rated operation current le at DC-13, 24 VA3Rated operation current le at DC-13, 125 VA1Rated operation current le at DC-13, 230 VA0.5Construction type housingCuboidPlasticNaterial housingCuboidPlasticCoating housingCuboidCuboidType of electric connectionCuboidCuboidExplosion safety category for gasCuboidNone	Rated operation current le at AC-15, 24 V	А	10
Rated operation current le at DC-13, 24 V       A       3         Rated operation current le at DC-13, 125 V       A       1         Rated operation current le at DC-13, 230 V       A       0.5         Construction type housing       Cuboid       Plastic         Naterial housing       Cuboid       Plastic         Coating housing       Cuboid       Cuboid         Type of electric connection       Explosion safety category for gas       Cuboid	Rated operation current le at AC-15, 125 V	А	0
Rated operation current le at DC-13, 125 VA1Rated operation current le at DC-13, 230 VA0.5Construction type housingCuboidCuboidMaterial housingPlasticCuboidCoating housingCuboidCuboidType of electric connectionCuboidCuboidExplosion safety category for gasCuboidCuboid	Rated operation current le at AC-15, 230 V	А	6
Rated operation current le at DC-13, 230 VA0.5Construction type housingCuboidCuboidMaterial housingPlasticPlasticCoating housingCuboidCuboidType of electric connectionCuboidCuboidExplosion safety category for gasCuboidNone	Rated operation current le  at DC-13, 24 V	А	3
Construction type housingCuboidMaterial housingPlasticCoating housingOtherType of electric connectionCoal entry metricalExplosion safety category for gasCoal entry metrical	Rated operation current le  at DC-13, 125 V	А	1
Material housing     Plastic       Coating housing     Coating housing       Type of electric connection     Coating housing       Explosion safety category for gas     Coating housing	Rated operation current le  at DC-13, 230 V	А	0.5
Coating housing     Other       Type of electric connection     Cable entry metrical       Explosion safety category for gas     None	Construction type housing		Cuboid
Type of electric connection     Cable entry metrical       Explosion safety category for gas     None	Material housing		Plastic
Explosion safety category for gas None	Coating housing		Other
	Type of electric connection		Cable entry metrical
Explosion safety category for dust None	Explosion safety category for gas		None
	Explosion safety category for dust		None
Type of interface None	Type of interface		None
Type of interface for safety communication None	Type of interface for safety communication		None
Degree of protection (IP) IP65	Degree of protection (IP)		IP65
Degree of protection (NEMA) Other	Degree of protection (NEMA)		Other

## **Approvals**

Product Standards	IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14; CE marking
UL File No.	E29184
UL Category Control No.	NKCR
CSA File No.	12528
CSA Class No.	3211-03
North America Certification	UL listed, CSA certified
Degree of Protection	IEC: IP65, UL/CSA Type 3R, 4X (indoor use only), 12, 13

### **Dimensions**



# Assets (links)

Declaration of CE Conformity
00003115

## Additional product information (links)

IL05208006Z (AWA1310-2363) Hasp-Operated and Hinge-Operated Safty Switches

IL05208006Z (AWA1310-2363) Hasp-Operated and Hinge-Operated Safty Switches

ftp://ftp.moeller.net/DOCUMENTATION/AWA\_INSTRUCTIONS/IL05208006Z2018\_09.pdf