Position switch, Rounded plunger, Basic device, not expandable, 1 N/0, 1 NC, Screw terminal, Yellow, Insulated material, -25 - +70  $^{\circ}\text{C}$ 



Part no. LS-S11/F 106784

| Product name                           | Eaton Moeller® series LS Position switch                               |
|--|--|
| Part no.                               |  |
|  | LS-S11/F   |
| EAN                                    | 4015081065516  |
| Product Length/Depth                   | 33.5 millimetre  |
| Product height                         | 76.5 millimetre  |
| Product width                          | 31 millimetre  |
| Product weight                         | 0.05 kilogram  |
| Certifications                         | CE   |
| Product Tradename                      | LS   |
| Product Type                           | Position switch  |
| Product Sub Type                       | None   |
| Catalog Notes                          | Contacts with safety function, by positive opening to IEC/EN 60947-5-1 |
| Features & Functions                   |  |
| Electric connection type               | Cable entry metrical   |
| Enclosure color                        | Yellow Cover   |
| Enclosure material                     | Insulated material Plastic   |
| Features                               | Forced opening Positive opening  |
| Switch function type                   | Slow-action switch   |
| General information                    |  |
| Connection type                        | Screw terminal   |
| Degree of protection                   | IP66/IP67<br>NEMA Other  |
| Lifespan                               | 8,000,000 mechanical Operations  |
| Operating frequency                    | 6000 Operations/h  |
| Overvoltage category                   | III  |
| Pollution degree                       | 3  |
| Product category                       | Rounded plunger  |
| Rated impulse withstand voltage (Uimp) | 4000 V AC  |
| Repetition accuracy                    | 0.15 mm (Contacts/switching capacity)                                  |
| Suitable for                           | Safety functions   |
| Туре                                   | Position switch Safety position switch                                 |
| Ambient conditions, mechanical         |  |
| Mounting position                      | As required  |
| Shock resistance                       | 25 g, Standard-action contact, Mechanical, Half-sinusoidal shock 20 ms |
| Temperature resistance                 | 100 °C, Contact temperature of roller head                             |
| Climatic environmental conditions      |  |
| Ambient operating temperature - min    | -25 °C   |
| Ambient operating temperature - max    | 70 °C  |
| Climatic proofing                      | Damp heat, constant, to IEC 60068-2-78                                 |

|  | Damp heat, cyclic, to IEC 60068-2-30  |
|--|---|
| Terminal capacities  |   |
| Terminal capacity (flexible with ferrule)  | 1 x (0.5 - 1.5) mm <sup>2</sup>   |
| Terminal capacity (solid)  | 1 x (0.5 - 2.5) mm <sup>2</sup>   |
| Electrical rating  |   |
| Rated conditional short-circuit current (Ig)                                     | 1 kA  |
| Rated insulation voltage (Ui)  | 400 V   |
| Rated operational current (Ie) at AC-15, 220 V, 230 V, 240 V                     | 6 A   |
| Rated operational current (Ie) at AC-15, 24 V                                    | 6 A   |
| Rated operational current (Ie) at AC-15, 380 V, 400 V, 415 V                     | 4 A   |
| Rated operational current (Ie) at DC-13, 110 V                                   | 0.6 A   |
| Rated operational current (Ie) at DC-13, 125 V                                   | 0.8 A   |
| Rated operational current (Ie) at DC-13, 220 V, 230 V                            | 0.3 A   |
| Rated operational current (Ie) at DC-13, 24 V                                    | 3 A   |
| Short-circuit protection rating  | Max. 6 A gG/gL, Fuse, Contacts  |
| Supply frequency   | Max. 400 Hz, Contacts   |
| Actuator   |   |
| Actuating force at beginning/end of stroke                                       | 1.0 N/8.0 N   |
| Actuating torque of rotary drives  | 0.2 N·m   |
| Actuator type  | Plunger   |
| Operating speed  | For angle of actuation α = 0°/30°<br>Max. 1/0.5 m/s (with DIN cam, mechanical actuation)            |
| Contacts   |   |
| Control circuit reliability  | 1 failure per 5,000,000 switching operations (statistically determined, at 5 V DC/1                 |
|  | mA)<br>1 failure per 10,000,000 switching operations (Statistically determined, at 24 V DC/5<br>mA) |
| Number of contacts (change-over contacts)  | 0   |
| Number of contacts (normally closed contacts)                                    | 1   |
| Number of contacts (normally open contacts)                                      | 1   |
| Safety   |   |
| Explosion safety category for gas  | None  |
| Explosion safety category for dust   | None  |
| Design verification  |   |
| Equipment heat dissipation, current-dependent Pvid                               | 0 W   |
| Heat dissipation capacity Pdiss  | 0 W   |
| Heat dissipation per pole, current-dependent Pvid                                | 0.17 W  |
| Rated operational current for specified heat dissipation (In)                    | 6 A   |
| Static heat dissipation, non-current-dependent Pvs                               | 0 W   |
| 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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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.  |
| 10.9.2 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.                                   |
| 10.12 Electromagnetic compatibility | Is the panel builder's responsibility. The specifications for the switchgear must be observed.                                   |
| 10.13 Mechanical function           | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.                         |

## Technical data ETIM 9.0

Sensors (EG000026) / End switch (EC000030)

Electric engineering, automation, process control engineering / Sensor technology, safety-related sensor technology / Safety-related mechanical switch (sensor technology) / Safety position switch (Type 1) (ect@ss13-77-77-76-01 [AKF640018])

| Diameter sansor         mm         0           Height of sensor         mm         33-5           Length of sensor         mm         33-5           Rated operation current le at AC-15, 24 V         A         6           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         0           Rated operation current le at DC-13, 250 V         A         0           Rated operation current le at DC-13, 250 V         A         0           Rated operation current le at DC-13, 250 V         A         0           Rated operation current le at DC-13, 250 V         A         0           Rated operation current le at DC-13, 250 V         A         0           Rated operation current le at DC-13, 250 V         A         0           Rated operation current le at DC-13, 250 V         A         0           Rated operation current le at DC-13, 250 V         A         0           Rated operation current le at DC-13, 250 V         A         0           Rated operation current le at DC-13, 250 V         0         0           Rated operation current le at DC-13, 250 V         0         0   | switch (Type 1) (ecl@ss13-27-27-26-01 [AKE640018]) | r-related sensor te | eciniology / Salety-leiated mechanical switch (sensor technology) / Safety position |
|--|--|---------------------|---|
| Height of sensor   | Width sensor                                       | mm                  | 31  |
| Length of sensor         mm         33.5           Rated operation current le at AC-15, 25 V         A         6           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, 250 V         A         0.3           Rated operation current le at DC-13, 230 V         A         0.3           Rated operation current le at DC-13, 230 V         A         0.3           Switching function         Mo         No           Output electronic         No         No           Forced operation         Yes         No           Number of contacts as normally closed contacts         I         1           Number of contacts as normally closed contact         I         1           Number of contacts as normally closed contact         I         1           Number of contacts as normally closed contact         I         None           Type of interface for safety communication         I         None           Construction type housing         I         Plastic           Construction type housing         I         Plauser           Rousing material         I         Plauser           Costing housing   | Diameter sensor                                    | mm                  | 0   |
| Rated operation current le at AC-15, 24 V         A         6           Rated operation current le at AC-15, 25 V         A         6           Rated operation current le at AC-15, 25 V         A         6           Rated operation current le at DC-13, 24 V         A         0.8           Rated operation current le at DC-13, 25 V         A         0.8           Rated operation current le at DC-13, 25 V         A         0.3           Rated operation current le at DC-13, 25 V         A         0.3           Rated operation current le at DC-13, 25 V         A         0.3           Rated operation current le at DC-13, 25 V         A         0.3           Rated operation current le at DC-13, 25 V         A         0.3           Rated operation current le at DC-13, 25 V         A         0.3           Rated operation current le at DC-13, 25 V         A         0.3           Rated operation current le at DC-13, 25 V         A         0.3           Switching function surrent le at DC-13, 25 V         A         0.3           Switching function latching         No         No           Number of contacts as normally centred contact         1         1           Number of contacts as normally centred contact         1         No           Vage of interface for safet  | Height of sensor                                   | mm                  | 61  |
| Rated operation current le at AC-15, 125 V         A         6           Rated operation current le at AC-15, 230 V         A         3           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, 230 V         A         0           Switching function         Slow-action switch           Switching function         No           Output electronic         No           Forced opening         Yes           Number of safety auxiliary contacts         1           Number of contacts as normally logaed contact         1           Number of contacts as normally open contact         1           Number of contacts as shange-over contact         0           Type of interface for safety communication         None           Loud and safety auxiliary contacts         None           Construction type housing         Cuboid           Housing material         Cuboid           Construction type housing         Cuboid           Vipu of control element         None           Alignment of the control element         None           With status indication         None           Explosion safety category for dust   | Length of sensor                                   | mm                  | 33.5  |
| Rated operation current le at DC-13, 24 V         A         6           Rated operation current le at DC-13, 25 V         A         0.8           Rated operation current le at DC-13, 125 V         A         0.3           Rated operation current le at DC-13, 230 V         A         0.3           Switching function latching         No         No           Output electronic         No         No           Forced opening         Yes         1           Number of safety auxiliary contacts         1         1           Number of contacts as normally closed contact         1         1           Number of contacts as normally open contact         1         1           Number of contacts as change-over contact         0         1           Type of interface for safety communication         None         None           Construction type housing         Cuboid         Plustic           Construction type housing         Cuboid         Plustic           Construction type housing         Cuboid         Plustic           Contact as a change-over contact         Plunger         Plunger           Alignment of the control element         Plunger         Plunger           Alignment of the control element         Plunger         Plunger <t< td=""><td>Rated operation current le at AC-15, 24 V</td><td>Α</td><td>6</td></t<>  | Rated operation current le at AC-15, 24 V          | Α                   | 6   |
| Rated operation current le at DC-13, 24 V         A         3           Rated operation current le at DC-13, 125 V         A         0.8           Rated operation current le at DC-13, 230 V         A         0.3           Switching function         Switching function latching         No           Output electronic         No         No           Forced opening         Yes         No           Number of safety auxiliary contacts         1         1           Number of contacts as normally closed contact         1         1           Number of contacts as normally open contact         1         None           Number of contacts as change-over contact         0         None           Type of interface for safety communication         None         None           Construction type housing         Cubid         Cubid           Housing material         Plastic         Cubid           Construction type housing         Cubid         Planting           Yes of control element         Plunger           Alignment of the control element         Roller cam straight           Type of electric connection         No         No           With status indication         No         No           Explosion safety category for dust         None<   | Rated operation current le at AC-15, 125 V         | Α                   | 6   |
| Rated operation current le at DC-13, 125 V Rated operation current le at DC-13, 230 V Rated operation current le at DC-13, 230 V Rowner of contact in section latching Rumber of safety auxiliary contacts Rumber of contacts as normally closed contact Rumber of contacts as normally closed contact Rumber of contacts as normally open contact Rumber of contacts as normally open contact Rumber of contacts as normally closed contact Rumber of contacts as normally open contact Rumber of contacts as change-over contact Rumber of contacts as normally open conta | Rated operation current le at AC-15, 230 V         | Α                   | 6   |
| Rated operation current le at DC-13, 230 V Switching function Switching function latching Output electronic Output elect | Rated operation current le at DC-13, 24 V          | Α                   | 3   |
| Switching function         Slow-action switch           Switching function latching         No           Output electronic         No           Forced opening         Yes           Number of safety auxiliary contacts         1           Number of contacts as normally closed contact         1           Number of contacts as normally open contact         1           Number of contacts as change-over contact         0           Number of safety communication         None           Construction type housing         Cuboid           Housing material         Cuboid           Coating housing         Other           Type of control element         Plunger           Alignment of the control element         Roller cam straight           Type of electric connection         Roller cam straight           Explosion safety category for gas         None           Explosion safety category for gas         None           Explosion safety category for dust         None           Ambient temperature during operating         °C         25-70           Degree of protection (IP)         Pleds(Per   | Rated operation current le at DC-13, 125 V         | Α                   | 0.8   |
| Switching function latching         No           Output electronic         No           Forced opening         Yes           Number of safety auxiliary contacts         1           Number of contacts as normally closed contact         1           Number of contacts as normally open contact         1           Number of contacts as change-over contact         0           Type of interface         None           Construction type housing         Cuboid           Housing material         Plastic           Coating housing         Other           Type of control element         Plunger           Alignment of the control element         Roller cam straight           Type of electric connection         Solle entry metrical           With status indication         No           Suitable for safety functions         Yes           Explosion safety category for gas         None           Explosion safety category for dust         None           Ambient temperature during operating         °C         25 - 70           Degree of protection (IP)         Ple6/P67  | Rated operation current le at DC-13, 230 V         | Α                   | 0.3   |
| Output electronic Forced opening Forced opening Number of safety auxiliary contacts Number of contacts as normally closed contact Number of contacts as normally open contact Number of contacts as change-over contact Number of contacts as change-over contact Type of interface None Type of interface for safety communication Construction type housing Housing material Coating housing Type of control element Type of control element Number of the control element Type of office connection None Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating One Sole Person Sole Perso | Switching function                                 |                     | Slow-action switch  |
| Foced opening  Number of safety auxiliary contacts  Number of contacts as normally closed contact  Number of contacts as normally open contact  Number of contacts as change-over contact  Number of contacts as change-over contact  Type of interface  None  Construction type housing  Housing material  Coating housing  Type of control element  Alignment of the control element  Type of electric connection  With status indication  Suitable for safety functions  Explosion safety category for dust  Ambient temperature during operating  **C**  **C**  **Pes*  ** | Switching function latching                        |                     | No  |
| Number of safety auxiliary contacts Number of contacts as normally closed contact Number of contacts as normally open contact Number of contacts as normally open contact Number of contacts as change-over contact Number of contacts as change-over contact Type of interface None Type of interface for safety communication Construction type housing None Construction type housing None Coating housing Plastic Coating housing Nother Type of control element Nignment of the control element None Coating housing Noller cam straight Type of electric connection None Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating  "C" 1966/1967  | Output electronic                                  |                     | No  |
| Number of contacts as normally closed contact Number of contacts as normally open contact Number of contacts as change-over contact Number of contacts as change-over contact Number of contacts as change-over contact Type of interface None Type of interface for safety communication Construction type housing Construction type housing Housing material Coating housing Type of control element Type of control element Type of control element Type of electric connection With status indication Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating  *Coating housing *Coating | Forced opening                                     |                     | Yes   |
| Number of contacts as normally open contact  Number of contacts as change-over contact  Type of interface Type of interface for safety communication  Construction type housing  Housing material  Coating housing  Type of control element  Alignment of the control element  Type of electric connection  With status indication  With status indication  Suitable for safety functions  Explosion safety category for gas  Explosion safety category for dust  Ambient temperature during operating  Punce  1   | Number of safety auxiliary contacts                |                     | 1   |
| Number of contacts as change-over contact Type of interface Type of interface for safety communication None Construction type housing Coating housing Coating housing Type of control element Type of control element Copy of electric connection Copy of element Copy of elem | Number of contacts as normally closed contact      |                     | 1   |
| Type of interface Type of interface for safety communication Construction type housing Housing material Coating housing Coating housing Type of control element Alignment of the control element Type of electric connection With status indication Suitable for safety functions Explosion safety category for dust Ambient temperature during operating C°C Ambient emperature during operating C°C Type of interface None None None None None None None Non   | Number of contacts as normally open contact        |                     | 1   |
| None Construction type housing Coating housing | Number of contacts as change-over contact          |                     | 0   |
| Construction type housing Housing material Coating housing Coating housing Coating housing Type of control element Alignment of the control element Type of electric connection With status indication Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating Cuboid Cuboid Plastic Cuboid Plastic Cuboid Cuboid Plastic Cuboid Cuboid Cuboid Cuboid Plastic Cable Cuboid Cher Roller cam straight Cable entry metrical No Vable entry metric | Type of interface                                  |                     | None  |
| Housing material Coating housing Coating housing Type of control element Alignment of the control element Type of electric connection With status indication Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating Degree of protection (IP)  Plastic Other Cheer Roller cam straight Cable entry metrical No Cable entry metrical No Ves Ves Ves Ves Pone   | Type of interface for safety communication         |                     | None  |
| Coating housing  Coating housing  Other  Type of control element  Alignment of the control element  Type of electric connection  With status indication  Suitable for safety functions  Explosion safety category for gas  Explosion safety category for dust  Ambient temperature during operating  Degree of protection (IP)  Other  Roller cam straight  Cable entry metrical  No  Yes  No  Yes  None  None  1000  1066/1067  | Construction type housing                          |                     | Cuboid  |
| Type of control element  Alignment of the control element  Type of electric connection  With status indication  Suitable for safety functions  Explosion safety category for dust  Ambient temperature during operating  Degree of protection (IP)  Plunger  Roller cam straight  Cable entry metrical  No  Yes  No  No  Yes  None  None  Plunger  Roller cam straight  Cable entry metrical  No  Yes  Yes  Yes  None  None  None  Plunger  Roller cam straight  Cable entry metrical  No  Yes  Yes  IP66/IP67   | Housing material                                   |                     | Plastic   |
| Alignment of the control element Type of electric connection With status indication Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating Degree of protection (IP)  Roller cam straight Cable entry metrical No No No Yes No  | Coating housing                                    |                     | Other   |
| Type of electric connection  With status indication  Suitable for safety functions  Explosion safety category for dust  Ambient temperature during operating  Degree of protection (IP)  Cable entry metrical  No  No  Yes  None  None  None  PCC -25 - 70  IP66/IP67  | Type of control element                            |                     | Plunger   |
| With status indication  Suitable for safety functions  Explosion safety category for gas  Explosion safety category for dust  Ambient temperature during operating  Degree of protection (IP)  No  No  None  None  1P66/IP67   | Alignment of the control element                   |                     | Roller cam straight   |
| Suitable for safety functions  Explosion safety category for gas  Explosion safety category for dust  Ambient temperature during operating  CC -25 - 70  Degree of protection (IP)  Yes  None  None  IP66/IP67   | Type of electric connection                        |                     | Cable entry metrical  |
| Explosion safety category for gas  Explosion safety category for dust  Ambient temperature during operating  C -25 - 70  Degree of protection (IP)  None  1P66/IP67  | With status indication                             |                     | No  |
| Explosion safety category for dust  Ambient temperature during operating  °C -25 - 70  Degree of protection (IP)  IP66/IP67  | Suitable for safety functions                      |                     | Yes   |
| Ambient temperature during operating  °C -25 - 70  Degree of protection (IP)  IP66/IP67  | Explosion safety category for gas                  |                     | None  |
| Degree of protection (IP)  IP66/IP67   | Explosion safety category for dust                 |                     | None  |
|  | Ambient temperature during operating               | °C                  | -25 - 70  |
| Degree of protection (NEMA) Other  | Degree of protection (IP)                          |                     | IP66/IP67   |
|  | Degree of protection (NEMA)                        |                     | Other   |