

## **KBM1S02** LIMIT SWITCH, K SERIES, WOBBLE STICK, OMNIDIRECTIONAL, 1 BOTTOM CABLE ENTRY. DIMENSIONS TO EN 50047, PLASTIC BODY, CONTACTS 2NC SNAP ACTION. FLEXIBLE ROD



| Product designation      | Wobble stick,<br>omnidirectional |
|--------------------------|----------------------------------|
| Product type designation | KBM                              |
| General characteristics  |                                  |
| Material                 |                                  |

| Rod     Fiexible       Rod     Fiexible       Type of contact     2NC Snap action       Thermal current lth     A     10       IEC/EN 60947-5-1 designation     X     600 Q600       Rated insulation voltage Ui     V     890       Rated insulation voltage Uimp     kV     6       Insulation class     II     10 gC/SC       Switching speed     Class/A     10 gC/SC       Switching speed     max     m/s     1.5       IEC Conventional free air thermal current lth     A     10       Resistance per pole (average value)     mGQ     <10       Mechanical features     Locking bayonet insert     Locking bayonet insert       Operating head fixing     Locking bayonet insert     Locking bayonet insert       Operating torque     Nm     2.5     1.42       Tightening torque (Max)     Switch fixing     Nm     0.8       Ibin     7     2.5     1.5       Conductor section     AWG/Kcmil     min     16       IEC     min<     16     max     14  |                          |                         | Housing |         | Polymer<br>thermoplastic |
|--|--------------------------|-------------------------|---------|---------|--------------------------|
| Contact characteristics         2NC Snap action           Type of contact         2NC Snap action           Thermal current Ith         A         10           IEC/EN 60947-5-1 designation         A 600 Q600           Rated insulation voltage Ui         V         690           Rated insulation class         II           Insulation class         II           Short-circuit protection with fuse         Class/A         10 gG/SC           Switching speed         min         m/s         0.5           max         n/s         1.5         15           IEC Conventional free air thermal current Ith         A         10         0           Resistance per pole (average value)         mQ<<10  |                          |                         | Rod     |         |                          |
| Type of contact         2NC Snap action           Thermal current lth         A         10           IEC/EN 60947-5-1 designation         A 600 Q600           Rated insulation voltage Ui         V         690           Rated insulation voltage Ui         V         690           Insulation voltage Ui         V         690           Short-circuit protection with fuse         Class/A         10 gG/SC QUICK FUSE           Switching speed         min         m/s         0.5           Max         m/s         1.5         5           IEC Conventional free air thermal current lth         A         10         0           Resistance per pole (average value)         mΩ         <10  | Contact characteristic   | S                       | - Tiou  |         |                          |
| Thermal current lth         A         10           IEC/EN 60947-5-1 designation         A 660 Q600           Rated insulation voltage Ui         V         690           Rated insulation voltage Uimp         KV         6           Insulation class         II         10 gG/SC QUICK FUSE           Switching speed         min         m/s         0.5           max         m/s         1.5         IEC Conventional free air thermal current lth         A         10           Resistance per pole (average value)         mQ <10  |                          |                         |         |         | 2NC Snap action          |
| Rated insulation voltage Ui         V         690           Rated impulse withstand voltage Uimp         kV         6           Insulation class         II         10 gG/SC QUICK FUSE           Switching speed         min         m/s         0.5           Switching speed         min         m/s         1.5           IEC Conventional free air thermal current lth         A         10           Resistance per pole (average value)         mΩ         <10  |                          |                         |         | А       |                          |
| Rated insulation voltage Ui         V         690           Rated impulse withstand voltage Uimp         kV         6           Insulation class         II         10 gG/SC QUICK FUSE           Switching speed         min         m/s         0.5           Switching speed         min         m/s         1.5           IEC Conventional free air thermal current lth         A         10           Resistance per pole (average value)         mΩ         <10  | IEC/EN 60947-5-1 de      | signation               |         |         | A600 Q600                |
| Rated impulse withstand voltage Uimp       kV       6         Insulation class       II         Short-circuit protection with fuse       Class/A       10 gG/SC QUICK FUSE         Switching speed       min       m/s       0.5         mix       m/s       1.5       IEC Conventional free air thermal current lth       A       10         Resistance per pole (average value)       mΩ       <10   |                          |                         |         | V       | 690                      |
| Short-circuit protection with fuse       Class/A       10 gG/SC<br>QUICK FUSE         Switching speed       min       m/s       0.5         max       m/s       1.5         IEC Conventional free air thermal current lth       A       10         Resistance per pole (average value)       mΩ       <10  |                          |                         |         | kV      | 6                        |
| Shore-of-out protection with ruse OrassiA QUICK FUSE<br>Switching speed  min m/s 0.5 max m/s 1.5 IEC Conventional free air thermal current lth A 10 Resistance per pole (average value) mΩ <10 Mechanical features Operating head fixing Operating torque Operating torque Norm 1 ozin 1.42 Tightening torque (Max) Switch fixing Nm 2.5 Ibin 22.1 Contact terminals Nm 0.8 Ibin 7 Body lid screw fixing Nm 0.8 Ibin 7 Conductor section AWG/Kcmil Min 16 max 14 IEC Nin min mm² 1 or 2  | Insulation class         |                         |         |         |                          |
| $\begin{array}{c c c c c c c } & & & & & & & & & & & & & & & & & & &$  | Short-circuit protection | n with fuse             |         | Class/A |                          |
| max         m/s         1.5           IEC Conventional free air thermal current lth         A         10           Resistance per pole (average value)         mΩ         <10  | Switching speed          |                         |         |         |                          |
| IEC Conventional free air thermal current lth       A       10         Resistance per pole (average value)       mΩ       <10  |                          |                         | min     | m/s     | 0.5                      |
| Resistance per pole (average value)       mΩ       <10   |                          |                         | max     | m/s     | 1.5                      |
| Mechanical features       Locking bayonet insert         Operating head fixing       Locking bayonet insert         Operating torque       Ncm       1         Tightening torque (Max)       Switch fixing       Nm       2.5         Locking bayonet insert       Ibin       22.1         Contact terminals       Nm       0.8         Body lid screw fixing       Nm       0.8         Ibin       7       7         Conductor section       AWG/Kcmil       min       16         IEC       min       16         min       min       17   | IEC Conventional free    | air thermal current Ith |         | А       | 10                       |
| Operating head fixing       Locking bayonet insert         Operating torque       Ncm       1         Tightening torque (Max)       Switch fixing       Nm       2.5         Switch fixing       Nm       2.5         Contact terminals       Nm       0.8         Body lid screw fixing       Nm       0.8         Ibin       7       7         Conductor section       Nm       0.8         AWG/Kcmil       min       16         IEC       min       14  | Resistance per pole (a   | average value)          |         | mΩ      | <10                      |
| Operating nead lixing insert  insert | Mechanical features      |                         |         |         |                          |
| Ncm         1           Tightening torque (Max)         Switch fixing         Nm         2.5           Ibin         22.1         Ibin         22.1           Contact terminals         Nm         0.8           Ibin         7         Ibin         7           Body lid screw fixing         Nm         0.8         Ibin         7           Conductor section         AWG/Kcmil         min         16         max         14           IEC         min         mm         10         2  | Operating head fixing    |                         |         |         | • •                      |
| ozin         1.42           Tightening torque (Max)         Switch fixing         Nm         2.5           Ibin         22.1         Ibin         22.1           Contact terminals         Nm         0.8           Body lid screw fixing         Nm         0.8           Ibin         7         7           Conductor section         AWG/Kcmil         min         16           IEC         min         14  | Operating torque         |                         |         |         |                          |
| Tightening torque (Max)       Switch fixing       Nm       2.5         Ibin       22.1       Ibin       22.1         Contact terminals       Nm       0.8         Ibin       7       Ibin       7         Body lid screw fixing       Nm       0.8         Ibin       7       Ibin       7         Conductor section       AWG/Kcmil       min       16         IEC       min       14         IEC       min       10 r 2  |                          |                         |         | Ncm     |                          |
| Switch fixing Nm 2.5 Ibin 22.1 Contact terminals Nm 0.8 Ibin 7 Body lid screw fixing Nm 0.8 Ibin 7 Conductor section AWG/Kcmil Min 16 max 14 IEC min mm² 1 or 2  |                          |                         |         | ozin    | 1.42                     |
| Nm         2.5           lbin         22.1           Contact terminals         Nm         0.8           lbin         7           Body lid screw fixing         Nm         0.8           lbin         7           Conductor section         AWG/Kcmil         ibin           min         16           max         14           IEC         min         mm   | Tightening torque (Ma    |                         |         |         |                          |
| Ibin         22.1           Contact terminals         Nm         0.8           Ibin         7           Body lid screw fixing         Nm         0.8           Ibin         7           Conductor section         Nm         0.8           AWG/Kcmil         min         16           IEC         min         14   |                          | Switch fixing           |         |         |                          |
| Contact terminals       Nm       0.8         Ibin       7         Body lid screw fixing       Nm       0.8         Ibin       7         Conductor section       AWG/Kcmil       Ibin       7         IEC       min       16         min       mm²       10r 2  |                          |                         |         |         |                          |
| Nm       0.8         Ibin       7         Body lid screw fixing       Nm       0.8         Ibin       7         Conductor section       AWG/Kcmil       7         AWG/Kcmil       16         IEC       14         IEC       10 r 2   |                          |                         |         | lbin    | 22.1                     |
| Ibin       7         Body lid screw fixing       Nm       0.8         Ibin       7         Conductor section       AWG/Kcmil       16         min       16         IEC       14         IEC       10 2   |                          | Contact terminals       |         | N       |                          |
| Body lid screw fixing       Nm       0.8         Ibin       7         Conductor section       AWG/Kcmil       Ibin         AWG/Kcmil       min       16         IEC       min       14         IEC       min       10 2  |                          |                         |         |         |                          |
| Nm 0.8<br>Ibin 7<br>Conductor section<br>AWG/Kcmil<br>min 16<br>max 14<br>IEC<br>min mm² 1or 2   |                          | Pody lid oprow fiving   |         | nia     | 1                        |
| Ibin         7           Conductor section         AWG/Kcmil         I6           min         16           IEC         min         14  |                          | Body lid screw fixing   |         | Nm      | 0.8                      |
| Conductor section          AWG/Kcmil       min       16         max       14         IEC       min       mm²   |                          |                         |         |         |                          |
| AWG/Kcmil<br>min 16<br>max 14<br>IEC<br>min mm <sup>2</sup> 1or 2  | Conductor section        |                         |         |         |                          |
| min         16           max         14           IEC         min         mm²         1 or 2   |                          | AWG/Kcmil               |         |         |                          |
| max         14           IEC         min         mm²         1 or 2  |                          |                         | min     |         | 16                       |
| IEC min mm <sup>2</sup> 1or 2  |                          |                         |         |         |                          |
| min mm <sup>2</sup> 1or 2  |                          | IEC                     |         |         |                          |
|  |                          |                         | min     | mm²     | 1or 2                    |
|  |                          |                         | max     |         | 2.5                      |

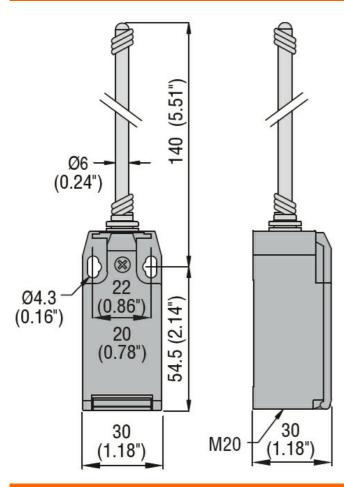


ENERGY AND AUTOMATION

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| Cable connection        |                      |              |          | Self-releasing screw terminal |
|-------------------------|----------------------|--------------|----------|-------------------------------|
| Cable entry             |                      |              |          | M20 on the bottom             |
| Operations              |                      |              |          |                               |
| Mechanical life         |                      |              | cycles   | <1000000                      |
| Mechanical operation    |                      |              | cycles/h | 3600                          |
| Ambient conditions      |                      |              |          |                               |
| Temperature             |                      |              |          |                               |
| 0                       | perating temperature |              |          |                               |
|                         |                      | min          | °C       | -25                           |
|                         |                      | max          | °C       | +70                           |
| S                       | torage temperature   |              |          |                               |
|                         |                      | min          | °C       | -40                           |
|                         |                      | max          | °C       | +70                           |
| Resistance & Protection |                      |              |          |                               |
| IP degree               |                      |              |          |                               |
|                         |                      | Terminals    |          | IP20                          |
|                         |                      | Body housing |          | IP65                          |
| Pollution degree        |                      |              |          | 3                             |

Dimensions



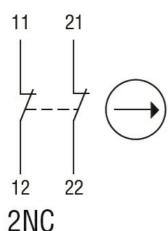
#### Wiring diagrams

KBM1S02



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# Snap action



#### Certifications and compliance Compliance CSA C22.2 n° 14 EN 50047 IEC/EN 60204-1 IEC/EN 60947-1 IEC/EN 60947-5-1 UL508 Certificates CCC cULus EAC ETIM classification EC000030 - End **ETIM 8.0** switch