## Technical Data <br> Electromechanical Impulse Switches

| Contacts | S09/S12/SS12 | S91/S81 | XS12 |
| :---: | :---: | :---: | :---: |
| Contact material/contact gap | $\mathrm{AgSnO}_{2} / 3 \mathrm{~mm}$ | $\mathrm{AgSnO}_{2} / 2 \mathrm{~mm}$ | $\mathrm{AgSnO}_{2} / 3 \mathrm{~mm}{ }^{1)}$ |
| Spacing of control connections/contact | $>6 \mathrm{~mm}$ | $>6 \mathrm{~mm}$ | $>6 \mathrm{~mm}$ |
| Test voltage contact/contact Test voltage control connections/contact | $\begin{aligned} & 2000 \mathrm{~V} \\ & 4000 \mathrm{~V} \end{aligned}$ | $\begin{aligned} & 2000 \mathrm{~V} \\ & 4000 \mathrm{~V} \end{aligned}$ | $\begin{aligned} & 2000 \mathrm{~V} \\ & 4000 \mathrm{~V} \end{aligned}$ |
| Rated switching capacity | $\begin{aligned} & 16 \mathrm{~A} / 250 \mathrm{~V} \mathrm{AC} \\ & 10 \mathrm{~A} / 400 \mathrm{~V} \mathrm{AC} \end{aligned}$ | $\begin{aligned} & 10 \mathrm{~A} / 250 \mathrm{~V} \mathrm{AC} \\ & 6 \mathrm{~A} / 400 \mathrm{VAC} \end{aligned}$ | $\begin{aligned} & 25 \mathrm{~A} / 250 \mathrm{~V} \mathrm{AC} \\ & 16 \mathrm{~A} / 400 \mathrm{~V} \mathrm{AC} \end{aligned}$ |
| Incandescent lamp and halogen lamp load ${ }^{2}$ ) 230 V | 2300W | 2300W | 2300W |
| Fluorescent lamp load with KVG* in lead-lag circuit or non compensated | 2300VA | 2300VA | 3600VA |
| Fluorescent lamp load with KVG* shunt-compensated or with EVG* | 500 VA | 500 VA | 1000VA |
| Compact fluorescent lamps with EVG* and energy saving lamps ESL | I on $\leq 140 \mathrm{~A} / 10 \mathrm{~ms}^{3}$ ) | 1 on $\leq 70 \mathrm{~A} / 10 \mathrm{~ms}^{3)}$ | I on $\leq 140 \mathrm{~A} / 10 \mathrm{~ms}^{3)}$ |
| HQL and HQ non compensated | 500 W | - | 500W |
| Max. switching current DC1: 12V/24V DC | 8A | 8A | 12A |
| Life at rated load $\cos \varphi=1$ or incandescent lamps 1000 W at $100 / \mathrm{h}$ | $>10^{5}$ | $>10^{5}$ | $>10^{5}$ |
| Life at rated load, $\cos \varphi=0.6$ at $100 / \mathrm{h}$ | $>4 \times 10^{4}$ | $>4 \times 10^{4}$ | $>4 \times 10^{4}$ |
| Max. operating cycles | 103/h | 103/h | $10^{3} / \mathrm{h}$ |
| Switch position indication | yes | yes | yes |
| Manual control | yes | yes | yes |
| Maximum conductor cross-section | $6 \mathrm{~mm}^{2}$ | $4 \mathrm{~mm}^{2}$ | $6 \mathrm{~mm}^{2}$ |
| Two conductors of same cross-section | $2.5 \mathrm{~mm}^{2}$ | $1.5 \mathrm{~mm}^{2}$ | $2.5 \mathrm{~mm}^{2}$ |
| Screw head | slotted/crosshead, pozidriv | slotted/crosshead, pozidriv | slotted/crosshead, pozidriv |
| Type of enclosure/terminals | IP50/IP20 | IP50/IP20 | IP50/IP20 |
| Solenoid |  |  |  |
| Time on at rated voltage 1-and 2-pole, without S09 | 100\% ${ }^{4)}$ | 100\% | 100\% ${ }^{4}$ |
| Time on at rated voltage 4-pole as well as S09 | impulse control | - | impulse control |
| Max./min. temperature at mounting location | $+50^{\circ} \mathrm{C} /-5^{\circ} \mathrm{C}$ | $+50^{\circ} \mathrm{C} /-5^{\circ} \mathrm{C}$ | $+50^{\circ} \mathrm{C} /-5^{\circ} \mathrm{C}$ |
| Control voltage range | 0.9 to $1.1 \times$ rated voltage | 0.9 to $1.1 \times$ rated voltage | 0.9 to $1.1 \times$ rated voltage |
| Coil power loss AC+ DC $\pm 20 \%$ | $\begin{aligned} & \text { 1- and 2-pole } 5-6 \mathrm{~W} \text {; } \\ & \text { 4-pole 12-15W } \end{aligned}$ | 5W | $\begin{aligned} & \text { 1- and 2-pole } 5-6 \mathrm{~W} \text {; } \\ & \text { 4-pole } 12-15 \mathrm{~W} \end{aligned}$ |
| Min. command duration | 50 ms | 50 ms | 50 ms |
| Max. parallel capacitance (length) of single control lead at 230V AC | $0.06 \mu \mathrm{~F}$ (approx. 200 m ) | 0.06 $\mu \mathrm{F}$ (approx. 200 m ) | $0.06 \mu \mathrm{~F}$ (approx. 200 m ) |
| Max. voltage induced at the control inputs | $0.2 \times$ rated voltage | $0.2 \times$ rated voltage | $0.2 \times$ rated voltage |
| Glow lamps in parallel with the 230V control switches | 5 mA | 5 mA | 5 mA |
| With $1 \mu \mathrm{~F} / 250 \mathrm{~V}$ AC capacitor in parallel with coil | 10 mA | 10 mA | 10 mA |
| With 2.2 $\mathrm{F} / 250 \mathrm{~V}$ AC capacitor in parallel with coil | 15 mA | 15 mA | 15 mA |

* EVG = electronic ballast units; KVG = conventional ballast units
${ }^{1}$ ) Conctact distance of the NC contacts 1.2 mm .
${ }^{2)}$ Contact spacing of NC contacts 1.2 mm .
${ }^{3}$ A 40 -fold inrush current must be calculated for electronic ballast devices. For steady loads of 1200 W or 600 W use the current-limiting relay SBR12 or SBR61. See chapter 14, page 14-8.
${ }^{4}$ ) Whenever several impulse switches are continuously energised make sure there is adequate ventilation and, in addition, a ventilation clearance of approx. half a module. Use the DS12 spacer as necessary.

