|  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | STAN | ARD |  |
|  |  |  |  |  |  | NON | USH |
|  |  |  |  | M12 conn | cable | M12 conn | cable |
| NOMINAL SWITCHING DISTANCE |  |  |  | 2 mm | 2 mm | 4 mm | 4 mm |
| 10-30 Vdc | PNP/NPN NO-NC | 4 wires | order No. | IS-12-A0-S2 | IS-12-A0-03 | 1S-12-C0-S2 | 15-12-C0-03 |
|  |  |  |  | 95B064060 | $95 \mathrm{B064030}$ | $95 \mathrm{B064080}$ | $95 \mathrm{B064040}$ |
| 10-30 Vdc | $\begin{aligned} & \text { PNP } \\ & \text { NO } \end{aligned}$ | 3 wires | order No. | IS-12-A1-S2 | IS-12-A1-03 | 1S-12-C1-52 | IS-12-C1-03 |
|  |  |  |  | $95 \mathrm{B061251}$ | 958061241 | $95 \mathrm{B061651}$ | $95 \mathrm{B061641}$ |
| 10-30 Vdc | $\begin{aligned} & \text { PNP } \\ & \text { NC } \end{aligned}$ | 3 wires | order No. | IS-12-A2-S2 | IS-12-A2-03 | 15-12-C2-S2 | IS-12-C2-03 |
|  |  |  |  | $95 \mathrm{B061281}$ | $95 \mathrm{B061271}$ | $95 \mathrm{B061681}$ | $95 \mathrm{B061671}$ |
| 10-30 Vdc | $\begin{aligned} & \text { NPN } \\ & \text { NO } \end{aligned}$ | 3 wires | order No. | IS-12-A3-S2 | IS-12-A3-03 | 1S-12-C3-52 | 1S-12-C3-03 |
|  |  |  |  | $95 \mathrm{B061191}$ | $95 \mathrm{B061181}$ | $95 \mathrm{B061591}$ | $95 \mathrm{B061581}$ |
| 10-30 Vdc | NPN <br> NC | 3 wires | order No. | 15-12-A4-S2 | 15-12-A4-03 | 15-12-C4-52 | 1S-12-C4-03 |
|  |  |  |  | $95 \mathrm{B061221}$ | $95 \mathrm{B061211}$ | $95 \mathrm{B061621}$ | $95 \mathrm{B061611}$ |
| 10-30 Vdc | $\begin{aligned} & \text { PNP } \\ & \text { NO-NC } \end{aligned}$ | 4 wires | order No. | --- | --- | --- | --- |
|  |  |  |  | --- | --- | --- | --- |
| 10-30 Vdc | $\begin{aligned} & \text { NPN } \\ & \text { NO-NC } \end{aligned}$ | 4 wires | order No. | --- | --- | --- | --- |
|  |  |  |  | --- | --- | --- | --- |
| 10-30 Vdc | NO-NC | 2 wires | order No. | IS-12-A9-S2 | \|S-12-A9-03 | 15-12-C9-52 | 15-12-C9-03 |
|  |  |  |  | $95 \mathrm{B063931}$ | 95B064100 | $95 \mathrm{B064140}$ | $95 \mathrm{B064110}$ |
| 20-250 Vac/Vdc | NO | 2 wires | order No. | --- | --- | --- | --- |
|  |  |  |  | --- | --- | --- | --- |
| 20-250 Vac/Vdc | NC | 2 wires | order No. | --- | --- | --- | --- |
|  |  |  |  | --- | --- | --- | --- |
| 20-250 Vac | NO | 2/3wires | order No. | --- | --- | --- | --- |
|  |  |  |  | --- | --- | --- | --- |
| 10-30 Vdc | $\begin{aligned} & \text { Analog } \\ & 0-20 \mathrm{~mA} \end{aligned}$ | 3 wires | order No. | --- | --- | --- | --- |
|  |  |  |  | --- | --- | --- | --- |
| NAMUR amplifier | NAMUR | 2 wires | order No. | --- | --- | --- | --- |
|  |  |  |  | --- | --- | --- | --- |
| Nominal Voltage |  |  |  | 10-30 Vdc (-15/10\%) | 10-30 Vdc (-15/10\%) | 10-30 Vdc (-15/10\%) | 10-30 Vdc (-15/10\%) |
| Residual Ripple |  |  |  | < 10\% | < 10\% | < 10\% | < 10\% |
| Hysteresis |  |  |  | < 10\% | < 10\% | < 10\% | < 10\% |
| Max. Output Current |  |  |  | 200mA; 100 mA (2wires) | 200mA; 100 mA (2wires) | 200mA; 100 mA (2wires) | 200mA; 100 mA (2wires) |
| Min. Output Current |  |  |  | $>1,6 \mathrm{~mA}$ (2wires) | $>1,6 \mathrm{~mA}$ (2wires) | $>1,6 \mathrm{~mA}$ (2wires) | $>1,6 \mathrm{~mA}$ (2wires) |
| Residual Current |  |  |  | $<10 \mathrm{~mA}$; < $1,6 \mathrm{~mA}$ (2wires) | $<10 \mathrm{~mA}$; $<1,6 \mathrm{~mA}$ (2wires) | $<10 \mathrm{~mA}$; $<1,6 \mathrm{~mA}$ (2wires) | < 10mA; < 1,6 mA (2wires) |
| Voltage Drop |  |  |  | $<1,8 V_{i}<6,5 \mathrm{~V}$ (2wires) | $<1,8 V_{i}<6,5 \mathrm{~V}$ (2wires) | $<1,8 V_{i}<6,5 \mathrm{~V}$ (2wires) | $<1,8 V_{;}<6,5 \mathrm{~V}$ (2wires) |
| Operation Led |  |  |  | Yellow | Yellow | Yellow | Yellow |
| Switching Frequency |  |  |  | $1000 \mathrm{~Hz} / 200 \mathrm{~Hz}$ ( 2 wires NO-NC) | $1000 \mathrm{~Hz} / 200 \mathrm{~Hz}$ (2 wires NO-NC) | $1000 \mathrm{~Hz} / 200 \mathrm{~Hz}$ (2 wires NO-NC) | $1000 \mathrm{~Hz} / 200 \mathrm{~Hz}$ (2 wires NO-NC) |
| Start Up Delay |  |  |  | < 50 ms | < 50 ms | < 50 ms | < 50 ms |
| Repeatability |  |  |  | < $3 \%$ | < 3\% | < 3\% | < 3\% |
| Short Circuit Protection |  |  |  | Present (self-resetting) | Present (self-resetting) | Present (self-resetting) | Present (self-resetting) |
| Electric Protection |  |  |  | Against polarity reversal inductive loads | Against polarity reversal inductive loads | Against polarity reversal inductive loads | Against polarity reversal inductive loads |
| Temperature Limit |  |  |  | $\left(-25 . . .+70^{\circ} \mathrm{C}\right)$ | $\left(-25 \ldots+70^{\circ} \mathrm{C}\right)$ | $\left(-25 . . .+70^{\circ} \mathrm{C}\right)$ | $\left(-25 \ldots+70^{\circ} \mathrm{C}\right)$ |
| Protection Degree |  |  |  | IP67 | IP67 | IP67 | IP67 |
| Cable Length |  |  |  | --- | 2 m | --- | 2 m |
| Cable Section |  |  |  | --- | 2/3/4 $\times 0,25 \mathrm{~mm}^{2}$ | --- | $2 / 3 / 4 \times 0,25 \mathrm{~mm}^{2}$ |
| Housing Material |  |  |  | Nickel-plated brass | Nickel-plated brass | Nickel-plated brass | Nickel-plated brass |
| Weight - Cable Output |  |  |  | --- | 110 g | --- | 110 g |
| Weight - Connector Output |  |  |  | 60 g | --- | 60 g | --- |



## 2 wires NO or NC



3 wires PNP or NPN


4 wires (PNP/NPN, NO/NC)


M12 connector - connections


## 2 wires NO or NC

| CONTACTS CONFIGURATION |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Anwiasie | Contacts mumbers |  |  |  |
|  | 1 | 2 | 3 | 4 |
| NO | + |  | - |  |
| NC | - |  | + |  |

3 wires
CONTACTS CONPIGURATION

| Avelabie | 1 | 2 | 3 | 4 |
| :---: | :---: | :---: | :---: | :---: |
| (NOer NC) | + |  | - | NONC |

## 4 wires (PNP/NPN, NO/NC)

CONTACTS CONFIGURATION

| Contactanumbers |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | + | 2 | 3 | 4 |
|  | + | NO | - | - |
| NPNNC | - | NC | + | - |
| PNPNO | + | + | - | NO |
| PNPNC | - | + | + | NC |

BASIC M12



| SHORT X2 |  |  |  |
| :---: | :---: | :---: | :---: |
| FLuSH |  | NoN FLUSH |  |
| M12 con | cable | M12 conn | cable |
| 4 mm | 4 mm | 8 mm | 8 mm |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| 15-12-G1-52 | \|5-12-61-03 | 15-12-H1-52 | 15-12-H1-03 |
| 958063371 | 95006361 | 958063451 | 958063441 |
| 15-12-G2-52 | 15-12-62-03 | 15-12-H2-52 | 15-12-H2-03 |
| 958063391 | 95066381 | 955063471 | 958063461 |
| 15-12-63-52 | 15-12-63-03 | 15-12-H3-52 | 15-12-H3-03 |
| 958063331 | 95506322 | 955063411 | 958063401 |
| 15-12-64-52 | 15-12-64-03 | 15-12-H4-52 | 15-12-H4-03 |
| 958063351 | 958063341 | 956033431 | 958063421 |
| 15-12-65-52 | 15-12-65-03 | 15-12-H5-52 | 15-12-H5-03 |
| 958062691 | 95502681 | 95802777 | 958062761 |
| 15-12-66-52 | \|5-12-66-03 | 15-12-H6-52 | 15-12-H6-03 |
| 958062671 | 950022661 | 95802751 | 958062741 |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |


| 10-30 Vdc (-15/10\%) | 10-30 Vdc (-15/10\%) | 10-30 Vdc (-15/10\%) | 10-30 Vdc (-15/10\%) |
| :---: | :---: | :---: | :---: |
| < 10\% | < 10\% | < 10\% | < 10\% |
| < 10\% | < 10\% | < 10\% | < 10\% |
| 200 mA | 200 mA | 200 mA | 200 mA |
| $>1,6 \mathrm{~mA}$ (2wires ver.) | $>1,6 \mathrm{~mA}$ (2wires ver.) | $>1,6 \mathrm{~mA}$ (2wires ver.) | $>1,6 \mathrm{~mA}$ (2wires ver.) |
| < 10 mA | < 10 mA | < 10 mA | < 10 mA |
| $<1,2 \mathrm{~V}$ ( $1=100 \mathrm{~mA}$ ) | $<1,2 \mathrm{~V}$ (l= 100 mA ) | $<1,2 \mathrm{~V}$ ( $=100 \mathrm{~mA}$ ) | $<1,2 \mathrm{~V}$ ( $1=100 \mathrm{~mA}$ ) |
| Yellow | Yellow | Yellow | Yellow |
| $500 \mathrm{~Hz} / 200 \mathrm{~Hz}$ ( 4 wires NO-NC) | $500 \mathrm{~Hz} / 200 \mathrm{~Hz}$ (4 wires NO-NC) | $500 \mathrm{~Hz} / 200 \mathrm{~Hz}$ ( 4 wires NO-NC) | $500 \mathrm{~Hz} / 200 \mathrm{~Hz}$ ( 4 wires NO-NC) |
| $<75 \mathrm{~ms}$ | $<75 \mathrm{~ms}$ | $<75 \mathrm{~ms}$ | $<75 \mathrm{~ms}$ |
| < 3\% | < 3\% | < 3\% | < 3\% |
| Present (self-resetting) | Present (self-resetting) | Present (self-resetting) | Present (self-resetting) |
| Against polarity reversal inductive loads | Against polarity reversal inductive loads | Against polarity reversal inductive loads | Against polarity reversal inductive loads |
| $\left(-25 \ldots+70^{\circ} \mathrm{C}\right)$ | $\left(-25 \ldots+70^{\circ} \mathrm{C}\right)$ | $\left(-25 \ldots+70^{\circ} \mathrm{C}\right)$ | $\left(-25 \ldots+70^{\circ} \mathrm{C}\right)$ |
| IP67 | IP67 | IP67 | IP67 |
| --- | 2 m |  | 2 m |
| --- | $3 \times 0,25 \mathrm{~mm}^{2}$ |  | $3 \times 0,25 \mathrm{~mm}^{2}$ |
| Nickel-plated brass | Nickel-plated brass | Nickel-plated brass | Nickel-plated brass |
| --- | 110 g | --- | 110 g |
| 60 g | --- | 60 g | --- |

2 wires NO or NC


3 wires PNP or NPN


4 wires (PNP/NPN, NO/NC)


4 wires (NO+NC)


## M12 connector connections

2 wires NO or NC


3 wires


4 wires (PNP/NPN, NO/NC)

| CONTACTA CONFIGURATION |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cuput | Cortasa numbers |  |  |  |
|  | $t$ | 2 | 3 | 4 |
| NPWNO | $+$ | no | - | - |
| hewinc | - | $n \mathrm{nc}$ | $+$ | - |
| PNP NO | $+$ | $+$ | - | NO |
| Plip NC: | - | + | + | NC |

4 wires (NO+NC)


