

# Selection Tables

## Indicators & Programmable displays

| Series                                | Model         | Mounting | Display Digits | Digit (mm) | Display | Input                           | Field Supply | Analogue Output *Optional | RS485 | Scaling        | Alarms / Digital outputs | Supply     | Page |
|---------------------------------------|---------------|----------|----------------|------------|---------|---------------------------------|--------------|---------------------------|-------|----------------|--------------------------|------------|------|
| <b>mA &amp; Volt Input</b>            |               |          |                |            |         |                                 |              |                           |       |                |                          |            |      |
| Mann                                  | PMX420        | Panel    | 4              | 14.2       | LED     | ±11V, ±22mA                     | •            |                           |       | Front Panel    |                          | Universal  | F.7  |
| Mann                                  | PMX420Plus    | Panel    | 4              | 14.2       | LED     | ±11V, ±22mA                     | •            | V, mA                     |       | Front Panel    | 2 x SPDT + 2 x SPST      | Universal  | F.7  |
| Mann                                  | DJ350         | Panel    | 3              | 14.2       | LED     | V, mA                           |              |                           |       | Potentiometer  |                          | AC or DC   | F.5  |
| Mann                                  | PM450         | Panel    | 4+½            | 14.2       | LED     | mV, V, mA                       | •            |                           |       | Potentiometer  |                          | AC or DC   | F.6  |
| Mann                                  | LPD350        | Panel    | 3+½            | 12.7       | LCD     | 4-20mA                          |              |                           |       | Potentiometer  |                          | Loop       | F.3  |
| Mann                                  | LPD450F       | Field    | 4+½            | 20         | LCD     | 4-20mA                          |              |                           |       | Front panel    |                          | Loop       | F.10 |
| Mann                                  | XFAR          | DIN      | 4              | 7          | LED     | ±11V, ±22mA                     | •            |                           |       | Front Panel    | 2 x SPDT                 | AC or DC   | E.6  |
| Mann                                  | UCVAR         | DIN      | 4              | 7          | LED     | ±55V, ±55mA                     | •            | V, mA                     |       | Front panel    | 2 x SPST                 | AC or DC   | E.6  |
| Mann                                  | UCVR          | DIN      | 4              | 7          | LED     | ±55V, ±55mA                     | •            |                           |       | Front panel    | 2 x SPST                 | AC or DC   | E.5  |
| Mann                                  | UPIR          | DIN      | 4              | 7          | LED     | V, mA                           | •            |                           |       | Front panel    | Relay 0-25Hz             | AC or DC   | D.17 |
| Mann                                  | UPIT          | DIN      | 4              | 7          | LED     | V, mA                           | •            |                           |       | Front panel    | O/C Transistor           | AC or DC   | D.17 |
| Nokeval                               | 201           | Panel    | 4              | 14.5       | LED     | 4-20mA                          |              |                           |       | Front panel    |                          | Loop       | F.4  |
| Nokeval                               | 202           | Panel    | 4              | 14.5       | LED     | 4-20mA                          |              |                           |       | Front Panel    | 2 x SPST                 | Loop       | F.4  |
| Nokeval                               | 301           | Field    | 4              | 14.5       | LED     | 4-20mA                          |              |                           |       | Front panel    |                          | Loop       | F.11 |
| Nokeval                               | 302           | Field    | 4              | 14.5       | LED     | 4-20mA                          |              |                           |       | Front panel    | 2 x SPST                 | Loop       | F.11 |
| Nokeval                               | 305           | Field    | 4              | 14.5       | LED     | 4-20mA                          |              |                           |       | Front panel    | 2 x SPST                 | Loop       | F.11 |
| Nokeval                               | 311           | Field    | 4              | 14.5       | LED     | mV, V, mA, RTD, TC              |              | 4-20mA                    |       | Front panel    | 2 x SPST                 | 10-32Vdc   | F.12 |
| Nokeval                               | 312           | Field    | 4              | 14.5       | LED     | mV, V, mA, RTD, TC              |              | 4-20mA                    |       | Front panel    | 2 x SPST                 | 12.5-32Vdc | F.12 |
| Nokeval                               | 6821          | DIN      | 4              | 7          | LED     | 2 channel mV, V, RTD, TC        | •            | 2[V, mA]                  |       | Front Panel/PC | 2 x SPDT                 | AC or DC   | E.8  |
| Nokeval                               | 2800          | Field    | 6              | 20         | LED     | mV, V, mA, RTD, TC, Pot         | •            | [V, mA]*                  |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | 538-8SC       | Panel    | 4              | 14.5       | LED     | mV, V, mA, RTD, TC              |              | 8[mA]*                    |       | Front Panel    | 2 x SPST, 10 option      | AC or DC   | F.15 |
| Nokeval                               | 575F5         | Field    | 5              | 57         | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | FD100 A4 / A6 | Field    | 4 & 6          | 100        | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | FD200 A4 / A6 | Field    | 3,4,5          | 200        | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | 910           | Panel    | 5              | 57         | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | 24Vdc      | F.14 |
| Nokeval                               | 920           | Panel    | 4              | 100        | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | 24Vdc      | F.14 |
| <b>RTD Input</b>                      |               |          |                |            |         |                                 |              |                           |       |                |                          |            |      |
| Mann                                  | PMX400TMP     | Panel    | 4              | 14.2       | LED     | RTD, Thermocouple, mV           |              | V, mA                     |       | Front Panel    | 4 x SPDT                 | AC or DC   | F.8  |
| Mann                                  | URTAR         | DIN      | 4              | 7          | LED     | 2,3 wire Pt100                  |              | V, mA                     |       | Front Panel    | 2 x SPST                 | AC or DC   | E.6  |
| Mann                                  | URTR          | DIN      | 4              | 7          | LED     | 2,3 wire Pt100                  |              |                           |       | Front Panel    | 2 x SPDT                 | AC or DC   | E.5  |
| Nokeval                               | 6821          | DIN      | 4              | 7          | LED     | 2 channel: mV, V, RTD, TC       | •            | 2x [V, mA]                | •     | Front Panel/PC | 2 x SPDT                 | AC or DC   | E.8  |
| Nokeval                               | 2800          | Field    | 6              | 20         | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | 538-8SC       | Panel    | 4              | 14.5       | LED     | mV, V, mA, RTD, TC              |              | 8[mA] (Opt)               |       | Front Panel    | 2 x SPST, 10 option      | AC or DC   | F.15 |
| Nokeval                               | 575F5         | Field    | 5              | 57         | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | FD100 A4 / A6 | Field    | 4 & 6          | 100        | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | FD200 A4 / A6 | Field    | 3,4,5          | 200        | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | 910           | Panel    | 5              | 57         | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | 24Vdc      | F.14 |
| Nokeval                               | 920           | Panel    | 4              | 100        | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | 24Vdc      | F.14 |
| <b>Thermocouple &amp; mV Input</b>    |               |          |                |            |         |                                 |              |                           |       |                |                          |            |      |
| Mann                                  | PMX400TMP     | Panel    | 4              | 14.2       | LED     | RTD, TC, mV                     |              | V, mA                     |       | Front Panel    | 4 x SPDT                 | AC or DC   | F.8  |
| Mann                                  | UTCAR         | DIN      | 4              | 7          | LED     | mV, Thermocouple                |              | V, mA                     |       | Front Panel    | 2 x SPST                 | AC or DC   | E.6  |
| Mann                                  | UTCRC         | DIN      | 4              | 7          | LED     | mV, Thermocouple                |              | -                         |       | Front Panel    | 2 x SPDT                 | AC or DC   | E.5  |
| Nokeval                               | 6821          | DIN      | 4              | 7          | LED     | 2 channel mV, V, RTD, TC        | •            | 2[V, mA]                  | •     | Front Panel/PC | 2 x SPDT                 | AC or DC   | E.8  |
| Nokeval                               | 2800          | Field    | 6              | 20         | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | 538-8SC       | Panel    | 4              | 14.5       | LED     | mV, V, mA, RTD, TC              |              | 8[mA] (Opt)               |       | Front Panel    | 2 x SPST, 10 option      | AC or DC   | F.15 |
| Nokeval                               | 575F5         | Field    | 5              | 57         | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | FD100 A4 / A6 | Field    | 4 & 6          | 100        | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | FD200 A4 / A6 | Field    | 3,4,5          | 200        | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | 910           | Panel    | 5              | 57         | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | 24Vdc      | F.14 |
| Nokeval                               | 920           | Panel    | 4              | 100        | LED     | mV, V, mA, RTD, TC, Pot         | •            | V, mA (Opt)               |       | Front Panel    | optional                 | 24Vdc      | F.14 |
| <b>Pulse / Rate / Totalse</b>         |               |          |                |            |         |                                 |              |                           |       |                |                          |            |      |
| Mann                                  | PTX800D       | Panel    | 8              | 7.2        | LED     | 0-10kHz                         | •            | V, mA                     |       | Front Panel    | 2 x SPDT                 | AC or DC   | F.9  |
| Mann                                  | UHZAR         | DIN      | 4              | 7          | LED     | 0.001Hz - 10kHz                 | •            | V, mA                     |       | Front Panel    | 2 x SPDT                 | AC or DC   | E.6  |
| Mann                                  | UHZR          | DIN      | 4              | 7          | LED     | 0.001Hz - 10kHz                 | •            | -                         |       | Front Panel    | 2 x SPDT                 | AC or DC   | E.5  |
| Nokeval                               | 2800          | Field    | 6              | 20         | LED     | Various                         |              | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | 575F5         | Field    | 5              | 57         | LED     | Various                         |              | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | FD100 A4 / A6 | Field    | 4 & 6          | 100        | LED     | Various                         |              | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | FD200 A4 / A6 | Field    | 3,4,5          | 200        | LED     | Various                         |              | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| Nokeval                               | 910           | Panel    | 5              | 57         | LED     | Various                         |              | V, mA (Opt)               |       | Front Panel    | optional                 | 24Vdc      | F.14 |
| Nokeval                               | 920           | Panel    | 4              | 100        | LED     | Various                         |              | V, mA (Opt)               |       | Front Panel    | optional                 | 24Vdc      | F.14 |
| <b>Auto/Manual Station Indicator</b>  |               |          |                |            |         |                                 |              |                           |       |                |                          |            |      |
| Mann                                  | AMS400        | Panel    | 4              | 14.2       | LED     | Digit/Analogue - Drive up/down  |              | V, mA                     |       | Front Panel    | optional                 | AC or DC   | F.16 |
| <b>Strain Gauge / load Cell Input</b> |               |          |                |            |         |                                 |              |                           |       |                |                          |            |      |
| Nokeval                               | 6841          | DIN      | 4              | 7          | LED     | -40 to 100mV, +½ or full bridge | •            | V, mA                     | •     | Front Panel/PC | 2 x SPDT                 | AC or DC   | E.7  |
| Nokeval                               | 2800          | Field    | 6              | 20         | LED     | -2041: 25,50mV                  | •            | V, mA (Opt)               |       | Front Panel    | optional                 | AC or DC   | F.13 |
| <b>Conductivity Input</b>             |               |          |                |            |         |                                 |              |                           |       |                |                          |            |      |
| Mann                                  | CNDAR         | DIN      | 4              | 7          | LED     | Conductivity & RTD Pt100        |              | V, mA                     |       | Pot            | 2 x SPST                 | AC or DC   | E.6  |
| Mann                                  | CNDR          | DIN      | 4              | 7          | LED     | Conductivity & RTD Pt100        |              | -                         |       | Pot            | 2 x SPST                 | AC or DC   | E.5  |

# Selection Tables

## Signal Powered Isolators

| Series          | Model                 | Mounting | Input      | Analogue Output | Output Load     | Configuration | Operating Temperature | Isolation    | Page |
|-----------------|-----------------------|----------|------------|-----------------|-----------------|---------------|-----------------------|--------------|------|
| <b>mA Input</b> |                       |          |            |                 |                 |               |                       |              |      |
| ACT20M          | ACT20M-CHCO-I LP-S    | DIN      | 4-20mA     | 4-20mA          | <600Ω           | Fixed         | -25°C to +70°C        | 2.5kV        | B.3  |
| ACT20M          | ACT20M-2CI-2CO-I LP-S | DIN      | 2 x 4-20mA | 2 x 4-20mA      | <600Ω / channel | Fixed         | -25°C to +70°C        | 2.5kV        | B.3  |
| Wave            | WAS5 CCC LP           | DIN      | 4-20mA     | 4-20mA          | <500            | Fixed         |                       | 300/4kV/6kV  | B.4  |
| Wave            | WAS5 CCC 2LP          | DIN      | 2 x 4-20mA | 2 x 4-20mA      | <500 / channel  | Fixed         |                       | 300/4kV/6kV  | B.4  |
| MCZ             | MCZ CCC               | DIN      | 0-20mA     | 0-20mA          | 500Ω            | Fixed         | -25°C to +60°C        | 510v - 2 way | B.5  |
| Jackpac         | JPA CCC LP M12        | M12-M12  | 0-20mA     | 0-20mA          | <600Ω           | Fixed         | -10°C to +70°C        | 500Vac       | B.6  |

## Output Loop Powered Isolators & Converters

| Series                         | Model                          | Mounting     | Display Input               | 4-20mA Outputs | Configuration   | Supply     | Operating Temperature | Isolation         | Page |
|--------------------------------|--------------------------------|--------------|-----------------------------|----------------|-----------------|------------|-----------------------|-------------------|------|
| <b>Universal Input</b>         |                                |              |                             |                |                 |            |                       |                   |      |
| Wave                           | ITX Plus                       | DIN          | mV,V,mA,RTD,Tc,Ω            | 1              | PC Programming  | 10-40Vdc   | -10°C to +70°C        | 2kV / 4kV - 2 way | C.3  |
| Mann                           | ITX Plus H                     | Head         | mV,V,mA,RTD,Tc,Ω            | 1              | PC Programming  | 10-40Vdc   | -10°C to +70°C        | 2kV / 4kV - 2 way | C.9  |
| Nokeval                        | 311                            | Field        | • mV,V, mA, RTD, Tc         | 1              | Front panel     | 10-32Vdc   | 0-60°C                | 2kV               | F.12 |
| Nokeval                        | 312                            | Field        | • mV,V, mA, RTD, Tc         | 1              | Front panel     | 12.5-32Vdc | 0-60°C                | 2kV               | F.12 |
| <b>mA &amp; Volt Input</b>     |                                |              |                             |                |                 |            |                       |                   |      |
| ACT20M                         | ACT20M-CHCO-OLP-S              | DIN          | 2-Wire (4-20mA) Tx          | 4-20mA         | <600Ω           | 24Vdc      | -25°C to +70°C        | 2.5kV             | C.4  |
| ACT20M                         | ACT20M-2CI-2CO-OLP-S           | DIN          | 2 x 2-Wire (4-20mA) Tx      | 2 x 4-20mA     | <600Ω / channel | 24Vdc      | -25°C to +70°C        | 2.5kV             | C.4  |
| Mann                           | ITX Plus                       | DIN          | mV,V,mA,RTD,Tc,Ω            | 1              | PC Programming  | 10-40Vdc   | -10°C to +70°C        | 2kV / 4kV - 2 way | C.3  |
| Mann                           | ITX Plus H                     | Head         | mV,V,mA,RTD,Tc,Ω            | 1              | PC Programming  | 10-40Vdc   | -10°C to +70°C        | 2kV / 4kV - 2 way | C.9  |
| Mann                           | TWI-2 4-20mA                   | DIN          | 2 x 4-20mA                  | 2              | potentiometer   | 12-45Vdc   | -10°C to +60°C        | 2kV / 4kV - 2 way | C.6  |
| Mann                           | TWI-2 0-10V                    | DIN          | 2 x 0-10V                   | 2              | potentiometer   | 12-45Vdc   | -10°C to +60°C        | 2kV / 4kV - 2 way | C.6  |
| Wave                           | WAS5 OLP                       | DIN          | 0-5-10V / 0-4-20mA          | 1              | Fixed           | 20-30Vdc   | 0-55°C                | 300/4kV/4kV       | C.5  |
| Wave                           | WAS5 20LP                      | DIN          | 1 x 4-20mA                  | 2              | Fixed           | 20-30Vdc   | 0-55°C                | 300/4kV/4kV       | C.7  |
| <b>RTD Input</b>               |                                |              |                             |                |                 |            |                       |                   |      |
| Mann                           | ITX Plus                       | DIN          | mV,V,mA,RTD,Tc,Ω            | 1              | PC Programming  | 10-40Vdc   | -10°C to +70°C        | 2kV / 4kV - 2 way | C.3  |
| Mann                           | ITX Plus H                     | Head         | mV,V,mA,RTD,Tc,Ω            | 1              | PC Programming  | 10-40Vdc   | -10°C to +70°C        | 2kV / 4kV - 2 way | C.9  |
| Mann                           | NTXHRTD                        | Head         | 2, 3 wire RTD's             | 1              | Potentiometer   | 12 - 45Vdc | 0-60°C                | Nil               | C.10 |
| Mann                           | ENXHRTD                        | Wall/ceiling | Air sensor                  | 1              | to order        | 12-45vdc   | 0-60°C                | Nil               | C.12 |
| MCZ                            | MCZ Pt100 / 0-100°C / Built-in | DIN          | Air sensor                  | 1              | 0-100°C         | 9-30Vdc    | 0-50°C                | Nil               | C.8  |
| MCZ                            | MCZPT100/3CLP                  | DIN          | Pt100 2/3 wire              | 1              | fixed Ranges    | 9-30Vdc    | 0-50°C                | Nil               | C.8  |
| Nokeval                        | HTB230                         | Head         | Pt100, Ni100, Cu10, Res     | 1              | PC Programming  | 6.5-30Vdc  | 40-85°C               | Nil               | C.11 |
| <b>Thermocouple / mV Input</b> |                                |              |                             |                |                 |            |                       |                   |      |
| Mann                           | ITX Plus                       | DIN          | mV,V,mA,RTD,Tc,Ω            | 1              | PC Programming  | 10-40Vdc   | -10°C to +70°C        | 2kV / 4kV - 2 way | C.3  |
| Mann                           | ITX Plus H                     | Head         | mV,V,mA,RTD,Tc,Ω            | 1              | PC Programming  | 10-40Vdc   | -10°C to +70°C        | 2kV / 4kV - 2 way | C.9  |
| <b>Resistance Input</b>        |                                |              |                             |                |                 |            |                       |                   |      |
| Mann                           | ITX Plus                       | DIN          | 2,3 wire Res,mV,V,mA,RTD,Tc | 1              | PC Programming  | 10-40Vdc   | -10°C to +70°C        | 2kV / 4kV - 2 way | C.3  |
| Mann                           | ITX Plus H                     | Head         | mV,V,mA,RTD,Tc,Ω            | 1              | PC Programming  | 10-40Vdc   | -10°C to +70°C        | 2kV / 4kV - 2 way | C.9  |
| <b>AC Amps Input</b>           |                                |              |                             |                |                 |            |                       |                   |      |
| Wave                           | WAS1CMA LP 1/5/10A AC          | DIN          | 1,5,10A AC                  | 1              | Dip Switch      | 13 - 30Vdc | 0-50                  | 4kV               | C.13 |

## Calibrators

| Series                          | Model         | Type     | Display | Ranges                   | Range setting | Power supply                      | Size (mm)  | Page |
|---------------------------------|---------------|----------|---------|--------------------------|---------------|-----------------------------------|------------|------|
| <b>mA &amp; Voltage signals</b> |               |          |         |                          |               |                                   |            |      |
| Mann                            | Portacal 275  | Portable |         | 0-200mV, 0-5V, 0(4)-20mA | Switch, pot   | 2 x 9V battery                    | 31x62x112  | I.2  |
| Mann                            | Portacal 1000 | Portable | 4 digit | 0-13V, 0-26mA            | Push Button   | 4 x AA<br>(8 x AA NiCad supplied) | 44x100x180 | I.3  |

# Selection Tables

## Auxiliary Powered Converters

| Series  | Model                 | DIN Rail | Display                              | Input | Inst Supply                   | Analogue Output  | Configuration | Alarms        | Supply | Page |
|---|-----------------------|----------|--------------------------------------|-------|-------------------------------|------------------|---------------|---------------|--------|------|
| <b>Universal Input</b>                                      |                       |          |                                      |       |                               |                  |               |               |        |      |
| ACT20M  | ACT20M-UI-A0-S        | •        | mV,V,mA,Tc, RTD, res, Pot            | 15Vdc | 0(4)-20mA / 0(2)-10V          | PC Programmed    |               | 24Vdc         |        | D.7  |
| Wave  | WAS6 TTA              | •        | mV,V,mA,Tc, RTD,Freq, res, Pot       | •     | Yes                           | PC Programmed    | 2 x SPDT      | 18-264V AC/DC |        | D.3  |
| Nokeval   | RMC685                | •        | mV,V,mA,Tc, RTD                      | 15Vdc | mA/V and RS485 (Modbus)       | PC Programmed    |               | 24Vdc         |        | G.3  |
| <b>mA / Volt Input</b>                                      |                       |          |                                      |       |                               |                  |               |               |        |      |
| ACT20M  | ACT20M-UI-A0-S        | •        | mV,V,mA,Tc, RTD, res, Pot            | 15Vdc | 0(4)-20mA / 0(2)-10V          | PC Programmed    |               | 24Vdc         |        | D.7  |
| ACT20M  | ACT20M-AI-A0-E-S      | •        | V, mA                                | •     | 0(4)-20mA / 0(2)-10V          | DIP Switch       |               | 24Vdc         |        | D.8  |
| ACT20M  | ACT20M-AI-A0-S        | •        | V, mA                                | 17Vdc | 0(4)-20mA / 0(2)-10V          | DIP Switch       |               | 24Vdc         |        | D.8  |
| ACT20M  | ACT20M-AI-2A0-S       | •        | V, mA                                | 17Vdc | 2 x 0(4)-20mA or 2 x 0(2)-10V | DIP Switch       |               | 24Vdc         |        | D.8  |
| ACT20M  | ACT20M-CI-C0-S        | •        | 0(4)-20mA                            | •     | 0(4)-20mA                     | Fixed            |               | 24Vdc         |        | D.8  |
| ACT20M  | ACT20M-CI-2C0-S       | •        | 2 x 0(4)-20mA                        | •     | 0(4)-20mA                     | Fixed            |               | 24Vdc         |        | D.8  |
| Wave  | WAS6 TTA              | •        | mV,V,mA,Tc, RTD,Freq, res, Pot       | •     | ± 10Vdc, 0-4-20mA dc          | PC Programmed    | 2 x SPDT      | 18-264V AC/DC |        | D.3  |
| Wave  | Wavepak DC/DC         | •        | 0-11V, 0-22mA                        | •     | 0 ± V,mA                      | Push Button      |               | 10-60VDC      |        | D.4  |
| Wave  | WAS5 CCC HF           | •        | ±V, mA (High Speed)                  | •     | V, mA                         | Fixed            |               | 24Vdc ±25%    |        | D.10 |
| Wave  | WAS4 PRO DC/DC        | •        | mV, V, mA                            | •     | V, mA                         | DIP Switch       |               | 22-230V AC/DC |        | D.12 |
| Mann  | DFI                   | •        | 2 x 0-10V or 2 x 4-20mA              | •     | 2 x 0-10V or 2 x 4-20mA       | Potentiometer    |               | AC or DC      |        | D.11 |
| Mann  | CLCAR                 | • •      | ± 12Vdc, ± 24mAdc                    | •     | Volts & mA                    | Front Panel      |               | AC or DC      |        | D.5  |
| Mann  | UCVAR                 | • •      | ± 55Vdc, ± 55mA dc                   | •     | 0-10Vdc, 0-4 - 20mA dc        | Front panel      | 2 x SPST      | AC or DC      |        | D.5  |
| Nokeval   | 6821                  | • •      | 2 channel: mV, V, mA, RTD, Tc        | •     | 2 x V, mA + RS485             | Front Panel / PC | 2 x SPDT      | AC or DC      |        | E.8  |
| <b>RTD Input</b>  |                       |          |                                      |       |                               |                  |               |               |        |      |
| ACT20M  | ACT20M-UI-A0-S        | •        | mV,V,mA,Tc, RTD, res, Pot            | 15Vdc | 0(4)-20mA / 0(2)-10V          | PC Programmed    |               | 24Vdc         |        | D.7  |
| Wave  | WAS6 TTA              | •        | mV,V,mA,Tc, RTD,Freq, res, Pot       | •     | ± 10Vdc, 0-4-20mA dc          | PC Programmed    | 2 x SPDT      | 18-264V AC/DC |        | D.3  |
| Nokeval   | RMC685                | •        | mV,V,mA,Tc, RTD                      | 15Vdc | mA/V and RS485 (Modbus)       | PC Programmed    |               | 24Vdc         |        | G.3  |
| Wave  | WAS4 PRO RTD          | •        | 2,3,4 wire RTD PT1000                | •     | 0(4) - 20mA / 0-10V           | Dip Switch       |               | 24Vdc         |        | D.13 |
| Mann  | URTAR                 | • •      | 2,3 wire Pt100                       | •     | mA / V                        | Front Panel      | 2 x SPST      | AC or DC      |        | D.5  |
| Nokeval   | 6821                  | • •      | 2 channel: mV, V, mA, RTD, Tc        | •     | 2 x V, mA + RS485             | Front Panel / PC | 2 x SPDT      | AC or DC      |        | E.8  |
| <b>Thermocouple / mV Input</b>                              |                       |          |                                      |       |                               |                  |               |               |        |      |
| ACT20M  | ACT20M-UI-A0-S        | •        | mV,V,mA,Tc, RTD, res, Pot            | 15Vdc | 0(4)-20mA / 0(2)-10V          | PC Programmed    |               | 24Vdc         |        | D.7  |
| Wave  | WAS6 TTA              | •        | mV,V,mA,Tc, RTD,Freq, res, Pot       | •     | ± 10Vdc, 0-4-20mA dc          | PC Programmed    | 2 x SPDT      | 18-264V AC/DC |        | D.3  |
| Nokeval   | RMC685                | •        | mV,V,mA,Tc, RTD                      | 15Vdc | mA/V and RS485 (Modbus)       | PC Programmed    |               | 24Vdc         |        | G.3  |
| Wave  | WAS4 PRO DC/DC        | •        | mV, V, mA                            | •     | V, mA                         | Dip Switch       |               | 22-230V AC/DC |        | D.12 |
| Wave  | WAS5 Pro Thermo       | •        | K,J,T,E,N,R,S,B Thermocouple         | •     | 0(4) - 20mA / 0-10V           | Dip Switch       |               | 24Vdc         |        | D.14 |
| Mann  | UTCAR                 | • •      | mV, E,B,J,K,R,S,T Thermocouple       | •     | mA / V                        | Front Panel      | 2 x SPST      | AC or DC      |        | D.5  |
| Nokeval   | 6821                  | • •      | 2 channel: mV, V, mA, RTD, Tc        | •     | 2 x V, mA + RS485             | Front Panel / PC | 2 x SPDT      | AC or DC      |        | E.8  |
| <b>Resistance / Potentiometer Input</b>                     |                       |          |                                      |       |                               |                  |               |               |        |      |
| ACT20M  | ACT20M-UI-A0-S        | •        | mV,V,mA,Tc, RTD, res, Pot            | 15Vdc | 0(4)-20mA / 0(2)-10V          | PC Programmed    |               | 24Vdc         |        | D.7  |
| Wave  | WAS6 TTA              | •        | mV,V,mA,Tc, RTD,Freq, res, Pot       | •     | ± 10Vdc, 0-4-20mA dc          | PC Programmed    | 2 x SPDT      | 18-264V AC/DC |        | D.3  |
| Wave  | WAS4 PRO RTD          | •        | 2,3,4 wire RTD PT1000                | •     | 0(4) - 20mA / 0-10V           | Dip Switch       |               | 24Vdc         |        | D.13 |
| Wave  | WAS4 PRO RTD 1000     | •        | 2,3,4 wire RTD, PT1000               | •     | 0(4) - 20mA / 0-10V           | Dip Switch       |               | 24Vdc         |        | -    |
| Nokeval   | 6821                  | • •      | 2 channel: mV, V, mA, RTD, Tc        | •     | 2 x V, mA + RS485             | Front Panel / PC | 2 x SPDT      | AC or DC      |        | E.8  |
| <b>Frequency / Pulse Input</b>                              |                       |          |                                      |       |                               |                  |               |               |        |      |
| Wave  | WAS6 TTA              | •        | mV,V,mA,Tc, RTD,Freq, res, Pot       | •     | ± 10Vdc, 0-4-20mA dc          | PC Programmed    | 2 x SPDT      | 18-264V AC/DC |        | D.3  |
| Wave  | WAS5 Pro Freq         | •        | 2,3 wire NPN/PNP, Namur, Push-Pull   | •     | 0- 10Vdc, 0-4-20mA dc         | Dip Switch       |               | 24Vdc         |        | D.15 |
| Mann  | UHZAR                 | • •      | 0.001Hz - 10kHz                      | •     | V, mA                         | Front Panel      | 2 x SPST      | AC or DC      |        | D.5  |
| <b>DC/AC Amps Input</b>                                     |                       |          |                                      |       |                               |                  |               |               |        |      |
| Wave  | WAS1 CMA 1/5/10A AC   | •        | 0-1,0-5,0-10A AC                     | •     | 0(4)-20mA / 0-10Vdc           | Dip Switch       |               | 24Vdc         |        | D.19 |
| Wave  | WAS2 CMA 5/10AUC      | •        | Hall effect CT 0-5A, 0-10A AC/DC     | •     | 0(4)-20mA / 0-10Vdc           | Dip Switch       |               | 24Vdc         |        | D.19 |
| Wave  | WAS2 CMA 10/25/30A UC | •        | Hall effect CT 0-20/0-25/0-30A AC/DC | •     | 0(4)-20mA / 0-10Vdc           | Dip Switch       |               | 24Vdc         |        | D.19 |
| Wave  | WAS2 CMA 40/50/60A UC | •        | Hall effect CT 0-40/0-50/0-60A AC/DC | •     | 0(4)-20mA / 0-10Vdc           | Dip Switch       |               | 24Vdc         |        | D.19 |
| Mann  | FTXACX                | •        | CT (range as ordered)                | •     | mA or V                       | Potentiometer    |               | AC or DC      |        | D.21 |
| <b>AC Volts Input</b>                                       |                       |          |                                      |       |                               |                  |               |               |        |      |
| Wave  | WAS2 VMA VAC          | •        | 0-450V AC ( 5 ranges)                | •     | 0-10V, 4-20mA                 | Dip Switch       |               | 24Vdc         |        | D.20 |
| Mann  | FTXAVX                | •        | As ordered                           | •     | V,mA                          | Fixed            |               | AC or DC      |        | D.22 |
| <b>Load Cell / Strain Gauge Input</b>                       |                       |          |                                      |       |                               |                  |               |               |        |      |
| ACT20   | ACT20P Bridge         | •        | ± 10,20,30,50mV                      | •     | V,mA                          | Push button      |               | 10-60Vdc      |        | D.16 |
| Nokeval   | 6841                  | • •      | -40 - 100mV, 1/2 or full bridge      | •     | V, mA + RS485                 | Front Panel / PC | 2 x SPDT      | AC or DC      |        | E.7  |
| <b>Conductivity Input</b>                                   |                       |          |                                      |       |                               |                  |               |               |        |      |
| Mann  | CNDAR                 | • •      | Conductivity & RTD Pt100             | •     | V,mA                          | Pot              | 2 x SPST      | AC or DC      |        | D.5  |
| <b>Analogue to Frequency converter</b>                      |                       |          |                                      |       |                               |                  |               |               |        |      |
| Mann  | UPIR                  | • •      | V, mA                                | •     | 24Vdc ( 25mA)                 | Front Panel      | Relay         | AC or DC      |        | D.17 |
| Mann  | UPIT                  | • •      | V, mA                                | •     | 24Vdc ( 25mA)                 | Front Panel      | O/C Trans     | AC or DC      |        | D.17 |
| MCZ   | MCZVFC                | •        | 0-10V Fixed                          | •     |                               | Dip Switch       | PNP           | 24Vdc         |        | D.18 |
| MCZ   | MCZCFC                | •        | 0-20mA Fixed                         | •     |                               | Dip Switch       | PNP           | 24Vdc         |        | D.18 |
| <b>Analogue to Digital / Digital to analogue converters</b> |                       |          |                                      |       |                               |                  |               |               |        |      |
| RS  | RS A-D / D-A          | •        | 8 bit or 12 bit A-D or D-A           | •     | BCD, V or mA                  | Fixed            |               | 24Vdc         |        | G.6  |
| <b>RS232 / RS485 converter</b>                              |                       |          |                                      |       |                               |                  |               |               |        |      |
| Wave  | WDS2 RS232/485/422    | •        | Isolated RS232 with DB9              | •     | RS485 / 422                   | Dip Switch       |               | 24Vdc         |        | G.4  |

# Selection Tables

## Process Alarm / Trip Amplifier

| Series                                  | Model                 | DIN Rail Mount | Display Input                               | Field Supply | Analogue Output | *Optional | RS485 Configuration | Alarms   | Supply       | Full Isolation | Page |
|---|-----------------------|----------------|---|--------------|-----------------|-----------|---------------------|----------|--------------|----------------|------|
| <b>Universal Input</b>                  |                       |                |   |              |                 |           |                     |          |              |                |      |
| ACT20P                                  | ACT20P-UI-2RCO-S      | •              | mV, V, mA, TC, RTD, Freq, Res, Pot, DC Amps |              |                 |           | PC Programmed       | 2 x SPDT | AC or DC     | •              | E.3  |
| Wave                                    | WAS6 TTA              | •              | mV, V, mA, TC, RTD, Freq, Res, Pot          | •            | V, mA           |           | PC Programmed       | 2 x SPDT | 18-264Vac/dc | •              | D.3  |
| <b>mA / Volt Input</b>                  |                       |                |   |              |                 |           |                     |          |              |                |      |
| ACT20P                                  | ACT20P-UI-2RCO-S      | •              | mV, V, mA, TC, RTD, Freq, Res, Pot, DC Amps |              |                 |           | PC Programmed       | 2 x SPDT | AC or DC     | •              | E.3  |
| Wave                                    | WAS6 TTA              | •              | mV, V, mA, TC, RTD, Freq, Res, Pot          | •            | V, mA           |           | PC Programmed       | 2 x SPDT | 18-264Vac/dc | •              | D.3  |
| Wave                                    | DC/Alarm              | •              | 0-10V, 0/4-20mA                             |              |                 |           |                     | 2 x SPDT | 24Vdc        | •              | E.4  |
| Mann                                    | UCVAR                 | • •            | ±55Vdc, ±55mAdc                             | •            | V, mA           |           | Front panel         | 2 x SPST | AC or DC     | •              | E.6  |
| Mann                                    | UCVR                  | • •            | ±55Vdc, ±55mA dc                            | •            |                 |           | Front panel         | 2 x SPST | AC or DC     | •              | E.5  |
| Mann                                    | XFAR (rate of change) | • •            | ±11Vdc, ±22mA dc                            | •            |                 |           | Front Panel         | 2 x SPDT | AC or DC     | •              | E.5  |
| Nokeval                                 | 6821                  | • •            | 2 x [mV, V, mA, RTD, TC]                    | •            | [V, mA]*        | •         | Front Panel / PC    | 2 x SPDT | AC or DC     | •              | E.8  |
| MCZ                                     | MCZSC 0-10V           | •              | 0-100mV, 1V, 10V                            |              |                 |           |                     | 2 x PNP  | 24Vdc        |                | E.9  |
| MCZ                                     | MCZSCO-20mA           | •              | 0.5 - 20mA                                  |              |                 |           |                     | 2 x PNP  | 24Vdc        |                | E.9  |
| <b>RTD Input</b>                        |                       |                |   |              |                 |           |                     |          |              |                |      |
| ACT20P                                  | ACT20P-UI-2RCO-S      | •              | mV, V, mA, TC, RTD, Freq, Res, Pot, DC Amps |              |                 |           | PC Programmed       | 2 x SPDT | AC or DC     | •              | E.3  |
| Wave                                    | WAS6 TTA              | •              | mV, V, mA, Tc, RTD, Freq, Res, Pot          | •            | V, mA           |           | PC Programmed       | 2 x SPDT | 18-264Vac/dc | •              | D.3  |
| Mann                                    | URTAR                 | • •            | 2, 3-wire Pt100                             |              | V, mA           |           | Front Panel         | 2 x SPST | AC or DC     | •              | E.6  |
| Mann                                    | URTR                  | • •            | 2, 3 wire Pt100                             |              |                 |           | Front Panel         | 2 x SPDT | AC or DC     | •              | E.5  |
| Nokeval                                 | 6821                  | • •            | 2 x [mV, V, mA, RTD, TC]                    | •            | [V, mA]*        | •         | Front Panel / PC    | 2 x SPDT | AC or DC     | •              | E.8  |
| <b>Thermocouple / mV Input</b>          |                       |                |   |              |                 |           |                     |          |              |                |      |
| ACT20P                                  | ACT20P-UI-2RCO-S      | •              | mV, V, mA, TC, RTD, Freq, Res, Pot, DC Amps |              |                 |           | PC Programmed       | 2 x SPDT | AC or DC     | •              | E.3  |
| Wave                                    | WAS6 TTA              | •              | mV, V, mA, Tc, RTD, Freq, res, Pot          | •            | V, mA           |           | PC Programmed       | 2 x SPDT | 18-264Vac/dc | •              | D.3  |
| Mann                                    | UTCR                  | • •            | mV, E,B,J,K,R, S,T Thermocouple             |              |                 |           | Front Panel         | 2 x SPST | AC or DC     | •              | E.5  |
| Mann                                    | UTCAR                 | • •            | mV, E,B,J,K,R, S,T Thermocouple             |              | V, mA           |           | Front Panel         | 2 x SPST | AC or DC     | •              | E.6  |
| Nokeval                                 | 6821                  | • •            | 2 x [mV, V, mA, RTD, TC]                    | •            | [V, mA]*        | •         | Front Panel / PC    | 2 x SPDT | AC or DC     | •              | E.8  |
| <b>Resistance / Potentiometer Input</b> |                       |                |   |              |                 |           |                     |          |              |                |      |
| ACT20P                                  | ACT20P-UI-2RCO-S      | •              | mV, V, mA, TC, RTD, Freq, Res, Pot, DC Amps |              |                 |           | PC Programmed       | 2 x SPDT | AC or DC     | •              | E.3  |
| Wave                                    | WAS6 TTA              | •              | mV, V, mA, Tc, RTD, Freq, res, Pot          | •            | V, mA           |           | PC Programmed       | 2 x SPDT | 18-264Vac/dc | •              | D.3  |
| Nokeval                                 | 6821                  | • •            | 2 x [mV, V, mA, RTD, TC]                    | •            | [V, mA]*        | •         | Front Panel / PC    | 2 x SPDT | AC or DC     | •              | E.8  |
| <b>Frequency / Pulse Input</b>          |                       |                |   |              |                 |           |                     |          |              |                |      |
| ACT20P                                  | ACT20P-UI-2RCO-S      | •              | mV, V, mA, TC, RTD, Freq, Res, Pot, DC Amps |              |                 |           | PC Programmed       | 2 x SPDT | AC or DC     | •              | E.3  |
| Wave                                    | WAS6 TTA              | •              | mV, V, mA, Tc, RTD, Freq, res, Pot          | •            | V, mA           |           | PC Programmed       | 2 x SPDT | 18-264Vac/dc | •              | D.3  |
| Mann                                    | UHZAR                 | • •            | 0.001Hz - 10kHz                             |              | V, mA           |           | Front Panel         | 2 x SPST | AC or DC     | •              | E.6  |
| Mann                                    | UHZR                  | • •            | 0.001Hz - 10kHz                             |              |                 |           | Front Panel         | 2 x SPDT | AC or DC     | •              | E.5  |
| <b>DC/AC Amps Input</b>                 |                       |                |   |              |                 |           |                     |          |              |                |      |
| ACT20P                                  | ACT20P-UI-2RCO-S      | •              | mV, V, mA, TC, RTD, Freq, Res, Pot, DC Amps |              |                 |           | PC Programmed       | 2 x SPDT | AC or DC     | •              | E.3  |
| Wave                                    | WAS2 CMR 1/5/10A AC   | •              | 0-1/5/10A AC                                |              | mA              |           | Fixed               | 1 x SPDT | 24Vdc        | •              | E.11 |
| Wave                                    | WAS2 CMR 20/40/60A AC | •              | 0-20/40/60A AC                              |              | mA              |           | Fixed               | 1 x SPDT | 24Vdc        | •              | E.11 |
| PAS                                     | PAS CMR               | •              | 0.5-2.5Adc / 2.5Adc / 4.5 - 10Adc           |              |                 |           | Fixed               | 1 x SPST | Signal       |                | E.10 |
| <b>AC Volts Input</b>                   |                       |                |   |              |                 |           |                     |          |              |                |      |
| Wave                                    | WAS5 VMR 1ph          | •              | 24-260V AC/DC selectable                    |              |                 |           | Fixed               | 1 x SPDT | 300V/4kV     | •              | E.12 |
| Wave                                    | WAS2 VMR 3ph          | •              | 80-150V AC/DC 1 or 3 Phase                  |              |                 |           | Fixed               | 2 x SPDT | 300V/4kV     | •              | E.12 |
| <b>Load Cell / Strain Gauge Input</b>   |                       |                |   |              |                 |           |                     |          |              |                |      |
| Nokeval                                 | 6841                  | • •            | 40 - 100mV, 1/2 or full bridge              | •            | V, mA           | •         | Front Panel / PC    | 2 x SPDT | AC or DC     |                | E.7  |
| <b>Conductivity Input</b>               |                       |                |   |              |                 |           |                     |          |              |                |      |
| Mann                                    | CNDAR                 | • •            | Conductivity & RTD Pt100                    |              | V, mA           |           | Pot                 | 2 x SPST | AC or DC     | •              | E.6  |
| Mann                                    | CNDR                  | • •            | Conductivity & RTD Pt100                    |              |                 |           | Pot                 | 2 x SPDT | AC or DC     | •              | E.5  |

## Intrinsically Safe Isolators for Hazardous Area Applications

| Series | Model                  | Mounting | Channels | Hazardous Area Connection                 | Safe Area Connection                                    | Page |
|--------|------------------------|----------|----------|---|---|------|
| ACT20X | ACT20X-HDI-SDO-RNO-S   | DIN Rail | 1        | Volt-free contact or NAMUR Sensor Input   | Relay Output (Normally Open)                            | A.3  |
| ACT20X | ACT20X-HDI-SDO-RNC-S   | DIN Rail | 1        | Volt-free contact or NAMUR Sensor Input   | Relay Output (Normally Closed)                          | A.3  |
| ACT20X | ACT20X-2HDI-2SDO-RNO-S | DIN Rail | 2        | Volt-free contact or NAMUR Sensor Input   | Relay Output (Normally Open)                            | A.3  |
| ACT20X | ACT20X-2HDI-2SDO-RNC-S | DIN Rail | 2        | Volt-free contact or NAMUR Sensor Input   | Relay Output (Normally Closed)                          | A.3  |
| ACT20X | ACT20X-HDI-SDO-S       | DIN Rail | 1        | Volt-free contact or NAMUR Sensor Input   | NPN Transistor Output                                   | A.5  |
| ACT20X | ACT20X-2HDI-2SDO-S     | DIN Rail | 2        | Volt-free contact or NAMUR Sensor Input   | NPN Transistor Output                                   | A.5  |
| ACT20X | ACT20X-SDI-HDO-L-S     | DIN Rail | 1        | Gas group IIC (35mA) digital output       | PNP Transistor, NPN Transistor, Switching Voltage Input | A.7  |
| ACT20X | ACT20X-2SDI-2HDO-L-S   | DIN Rail | 2        | Gas group IIC (35mA) digital output       | PNP Transistor, NPN Transistor, Switching Voltage Input | A.7  |
| ACT20X | ACT20X-SDI-HDO-H-S     | DIN Rail | 1        | Gas group IIB (60mA) digital output       | PNP Transistor, NPN Transistor, Switching Voltage Input | A.9  |
| ACT20X | ACT20X-2SDI-2HDO-H-S   | DIN Rail | 2        | Gas group IIC (60mA) digital output       | PNP Transistor, NPN Transistor, Switching Voltage Input | A.9  |
| ACT20X | ACT20X-HAI-SAO-S       | DIN Rail | 1        | Active or Passive 4-20mA Input            | Active or Passive 4-20mA Output                         | A.11 |
| ACT20X | ACT20X-2HAI-2SAO-S     | DIN Rail | 2        | Active or Passive 4-20mA Input            | Active or Passive 4-20mA Output                         | A.11 |
| ACT20X | ACT20X-SAI-HAO-S       | DIN Rail | 1        | Active or Passive 4-20mA Output           | Active or Passive 4-20mA Input                          | A.15 |
| ACT20X | ACT20X-2SAI-2HAO-S     | DIN Rail | 2        | Active or Passive 4-20mA Output           | Active or Passive 4-20mA Input                          | A.15 |
| ACT20X | ACT20X-HUI-SAO-LP-S    | DIN Rail | 1        | Universal Input (mV, V, mA, RTD, Tc, Ω)   | 4-20mA Loop Powered Output                              | A.15 |
| ACT20X | ACT20X-HUI-SAO-S       | DIN Rail | 1        | Universal Input (mV, V, mA, RTD, Tc, Ω)   | 0-20mA/4-20mA Output                                    | A.17 |
| ACT20X | ACT20X-HTI-SAO-S       | DIN Rail | 1        | Universal Temperature Input (mA, RTD, Tc) | 0-20mA/4-20mA Output                                    | A.19 |
| ACT20X | ACT20X-2HTI-2SAO-S     | DIN Rail | 2        | Universal Temperature Input (mA, RTD, Tc) | 0-20mA/4-20mA Output                                    | A.19 |