Product Guide

Limit Controllers

M Series Profile Range

- RW
- RP
- RP
- RG
- RPY
- RX

with Moving-Iron or Moving-Coil Movement

90°- Dial

Profile Types

with Moving-Coil Movement

CE

WEIGEL
**General Data**

**Limit Controllers**

## Application

For detection and display of limits

**for mounting in**
switchboards
mosaic grid panels

**for measuring**
AC current or AC voltage,
DC current or DC voltage,
standard signals,
resistance,
temperature

**connection**
direct or for use on
transformer/shunt/transducer

## Technical Data

**dial**
- square format: quadrant scale
- profile format: horizontal scale, or vertical scale option

**scaling**
- lettering and
custom-logo possible to special order

**pointer**
bar/knife-edge pointer

**case details**
- complying with DIN IEC 61 554
- rectangular or square formats
- stackable
- also to fit in mosaic grid panels

**material of case**
pressed steel (RW/RP 96)
thermoplastics, flame-retardant
( . 96x48, . 96x24)

**material of window**
glass or non-glaring glass option

**colour of bezel**
black or gray option

**position of use**
vertical, horizontal
or to be specified between 15 to 165°

**panel fixing**
screw clamps

**enclosure code**
- IP 40 case front side
- IP 00 for terminals without protection against accidental contact
- IP 20 for terminals protected against accidental contact

**enclosure code**
- IP 52 case
- IP 20 terminals

**terminal safety**
optionally protective sleeves or
full sized rear cover

**marine application**
onoptional (non-certified)

**dimensions (in mm)**

<table>
<thead>
<tr>
<th></th>
<th>. 96</th>
<th>. 96x48</th>
<th>. 96x24</th>
</tr>
</thead>
<tbody>
<tr>
<td>bezel</td>
<td>96</td>
<td>96 x 48</td>
<td>96 x 24</td>
</tr>
<tr>
<td>case</td>
<td>90</td>
<td>90.5 x 42.8</td>
<td>90.5 x 18.8</td>
</tr>
<tr>
<td>panel cutout</td>
<td>92^0.8</td>
<td>92^0.8 x 45^0.6</td>
<td>92^0.8 x 22^0.2</td>
</tr>
<tr>
<td>panel thickness</td>
<td>1 ... 15</td>
<td>1 ... 40</td>
<td>1 ... 40</td>
</tr>
<tr>
<td>depth</td>
<td>126</td>
<td>126</td>
<td>126</td>
</tr>
<tr>
<td>~ with relay output</td>
<td>78</td>
<td>146</td>
<td>146</td>
</tr>
<tr>
<td>weight approx.</td>
<td>0.2 kg</td>
<td>0.2 kg</td>
<td></td>
</tr>
<tr>
<td>~ with power supply unit</td>
<td>0.5 kg</td>
<td>0.5 kg</td>
<td></td>
</tr>
</tbody>
</table>

**climatic suitability**
- climatic class 2 or as an option
- climatic class 3 (limited use in the tropics)

**operating temperature range**
-25°C ... +40°C (climatic class 2)
-10°C ... +55°C (climatic class 3)

**storage temperature range**
-25 ... +65°C

**relative humidity**
≤75% annual average, non-condensing

**mechanical load**
- shock 15 g or optionally 30 g, 11 ms (. 96 only)
- vibration 2.5 g or optionally 5 g, 5 ... 55 Hz (. 96 only)
Short Form Data

Limit Controllers with Moving - Iron or Moving - Coil Movement 90°- Dial

RW 96
RP 96

Functional Principle
RW 96 pivot and jewel moving-iron movement; silicon oil damped
RP 96 pivot and jewel moving-coil movement; core-magnet system
Comparators optically scan the chosen setpoints.
Potential-free relay outputs.

Measuring Ranges

| RW 96 | AC current | 0 ... 40 / 80 mA up to 0 ... 15 / 30 A
|       | for use on CT | 0 ... N / 1 / 2 A or 0 ... N / 5 / 10 A
|       | AC voltage | 0 ... 40 V up to 0 ... 500 V
|       | for use on VT | 0 ... 100 / 120 V or 0 ... 110 / 132 V
|       | power consumption | approx. 1.5 ... 3 VA (voltmeters)
|       | frequency range | 15 ... 100 Hz (voltmeters)
|       |                | 15 ... 400 Hz (ammeters)
| RP 96 | DC current | 0 ... 100 μA up to 0 ... 1 A
|       | DC voltage | 0 ... 6 V up to 0 ... 250 V
|       | for use on transducer | 4 ... 20 mA
|       | for use with external shunt | 0 ... 60 mV or 0 ... 150 mV
|       | moving-coil voltmeters also AC rectified for sinusoidal AC voltages (RG 96)
|       | accuracy | class 1.5 acc. to DIN EN 60 051-1

Setpoints

<table>
<thead>
<tr>
<th>control functions</th>
<th>RW/RP 96</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min (LOW)</td>
<td>1 Min (LOW) setpoint</td>
</tr>
<tr>
<td>Max (HIGH)</td>
<td>1 Max (HIGH) setpoint</td>
</tr>
<tr>
<td>Min/Min (LOW/LOW)</td>
<td>1 Min (LOW) and 1 prewarning setpoint</td>
</tr>
<tr>
<td>Min/Max (LOW/HIGH)</td>
<td>1 Min (LOW) and 1 Max (HIGH) setpoint</td>
</tr>
<tr>
<td>Max/Max (HIGH/HIGH)</td>
<td>1 Max (HIGH) and 1 prewarning setpoint</td>
</tr>
<tr>
<td>relay operation</td>
<td>closed circuit principle or open circuit principle option</td>
</tr>
<tr>
<td>output relays</td>
<td>1 SPDT contact on each setpoint; max contact rating non-inductive: AC 230 V, 4 A, 920 VA</td>
</tr>
<tr>
<td>repeatability</td>
<td>±1% of span</td>
</tr>
</tbody>
</table>

Others

| pointer deflection | 0 ... 90° |
| auxiliary supply | AC 230 V –15 ... +10%, 48 ... 62 Hz or AC 115 V –15 ... +10%, 48 ... 62 Hz option or DC 24 V (20.4 ... 26.4 V) option with electrical insulation |

additional options
special measuring ranges, increased sensitivity, calibration to a firm internal resistance value or a higher lead resistance other than standard, dial illumination and others

additional data refer to Data Sheet No. 140.D.101.##
Short Form Data
Limit Controllers with Moving - Coil Movement Profile Range

RP 96x24
RG 96x24
RPY96x24
RX 96x24
RP 96x48
RG 96x48
RPY96x48
RX 96x48

Functional Principle
Pivot and jewel moving-coil movement with core-magnet system
Scanning of chosen setpoints by comparators.
Transistor or relay outputs

Measuring Ranges

<table>
<thead>
<tr>
<th>measurement unit</th>
<th>RP 96x24/96x48</th>
<th>RG 96x24/96x48</th>
<th>RPY96x24/96x48</th>
<th>RX 96x24/96x48</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC voltage</td>
<td>0 ... 100 μV up to 0 ... 6 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC current</td>
<td>0 ... 60 mA up to 0 ... 600 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for use on AC voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC voltage</td>
<td>0 ... 6 V up to 0 ... 600 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for use on CT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for use with transducer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>external shunt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>temperature (for thermocouples)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>temperature (for RTD thermometer)</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Setpoints

**Control functions**
RP/RG/RPY/RX 96x24/96x48
Min (LOW) 1 Min (LOW) setpoint
Max (HIGH) 1 Max (HIGH) setpoint
Min/Max (LOW/HIGH) 1 Min (LOW) and 1 Max (HIGH) setpoint
relay operation closed circuit principle or open circuit principle option

**Outputs**
transistor output open-collector max. 24 V, 20 mA
relay output 1 SPDT contact on each setpoint; contact rating AC 250 V, 6 A, 50 W / 500 VA

**Others**
auxiliary supply DC 24 V (20 ... 30 V), 4.5 W
optional external power supply AC 24 V; 100/110/115 V; 220/230/240 V, ±10%, 45 ... 65 Hz, 4 VA
with electrical insulation

additional options
special measuring ranges, increased sensitivity, calibration to a firm internal resistance value or a higher lead resistance other than standard besides others

additional data refer to Data Sheet No. 640.D.201.##

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**Specifications**
subject to change without notice; date of issue 06/11

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