Quality Management
ISO 9001:2008
▶ Voluntary participation in regular monitoring
DEKRA Certification
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Product Guide

500.U.001.07

Limit Controllers

M Series
Profile Range

RW
RP

with Moving-Iron or Moving-Coil Movement 90º- Dial

RP
RG
RPY
RX

with Moving-Coil Movement Profile Types

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 (RW/RP 96)	IP 40 case front side IP 00 for terminals without protection against accidental contact IP 20 for terminals protected against accidental contact
enclosure code (. 96x48, . 96x24)	IP 52 case IP 20 terminals
terminal safety protection	optionally protective sleeves or full sized rear cover
marine application (RW/RP 96)	optional (non-certified)

dimensions (in mm)	**. 96**	**. 96x48**	**. 96x24**
bezel	□ 96	96 x 48	96 x 24
case	□ 90	90.5 x 42.8	90.5 x 18.8
panel cutout	□ $92^{+0.8}$	$92^{+0.8}$ x $45^{+0.6}$	$92^{+0.8}$ x $22.2^{+0.3}$
panel thickness	1 ... 15	1 ... 40	1 ... 40
depth		126	126
~ with relay output	78	146	146
weight approx.		0.2 kg	0.2 kg
~ with power supply unit	0.5 kg	0.5 kg	

climatic suitability according to VDE/VDI 3540 sheet 2	climatic class 2 or as an option climatic class 3 (limited use in the tropics)
operating temperature range	–25°C ... +23°C ... +40°C (climatic class 2) –10°C ... +23°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 (up to 0 ... 150 V with 2 setpoints)
for use on **VT**	0 ... 100 / 120 V or 0 ... 110 / 132 V *)
	*) scaling to DIN series with overload range
power consumption	approx. 1.5 ... 3 VA (voltmeters) approx. 0.5 ... 1 VA (ammeters)
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 (up to 0 ... 150 V with 2 setpoints)
for use on **transducer**	4 ... 20 mA (mechanically suppressed zero, without zero adjustment)
for use with external **shunt**	0 ... 60 mV or 0 ... 150 mV (scaling to DIN series)

moving - coil voltmeters also AC rectified for sinusoidal AC voltages (**RG 96**)

accuracy	class 1.5 acc. to DIN EN 60 051 - 1

Setpoints

control functions

RW/RP 96

Min	(LOW)	1 Min (LOW) setpoint
Max	(HIGH)	1 Max (HIGH) setpoint
Min/Min	(LOW/LOW)	1 Min (LOW) and 1 prewarning setpoint
Min/Max	(LOW/HIGH)	1 Min (LOW) and 1 Max (HIGH) setpoint
Max/Max	(HIGH/HIGH)	1 Max (HIGH) and 1 prewarning setpoint

relay operation	closed circuit principle or open circuit principle option
output relays	1 SPDT contact on each setpoint; max contact rating non - inductive: AC 230 V, 4 A, 920 VA
repeatability	±1% of span

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

measuring unit	**RP**	DC voltage or DC current
	RG	AC voltage or AC current
	RPY	temperature (for thermocouples)
	RX	temperature (for RTD thermometer)

RP 96x24/96x48

DC current	0 ... 100 µA up to 0 ... 6 A
DC voltage	0 ... 60 mV up to 0 ... 600 V
for use on **transducer**	0/4 ... 20 mA (electrically suppressed zero, with zero adjustment)
for use with external **shunt**	0 ... 60 mV or 0 ... 150 mV (scaling to DIN series)

RG 96x24/96x48

AC current	0 ... 100 µA up to 0 ... 6 A
AC voltage	0 ... 6 V up to 0 ... 600 V
for use on **CT**	0 ... N/1 A, 0 ... N/5 A 0 ... N/100 V, 0 ... N/110 V (scaling to DIN series without overload range)
frequency range	40 Hz ... 10 kHz

RX 96x24/96x48 via **RTD Pt 100** (2 - or 3 - wire connection)

measuring ranges 0 ... 60/100/120/150/200/300/400/500/600 °C
–30 ... 60 / –30 ... 150 / 50 ... 150 / 100 ... 200 / 200 ... 400 °C

RPY 96x24/96x48 for thermocouple

20 ... 300/400/600°C	Fe – CuNi	Type J
20 ... 600/900/1200°C	NiCr – Ni	Type K
20 ... 1200/1600°C	PtRh – Pt	Type S

accuracy class 1.5 acc. to DIN EN 60 051

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 (3 variants)	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.##

Weigel Meßgeräte GmbH

Postfach 720154 • 90241 Nürnberg • Phone: 0911/42347-0
Erlenstraße 14 • 90441 Nürnberg • Fax: 0911/42347-39
Sales: Phone: 0911/42347-94
Internet: http://www.weigel–messgeraete.de
e–mail: vertrieb@weigel–messgeraete.de