

Revalco®

Made in Italy

equipments for rail-way
and naval use



Revalco®

Revalco srl was established in Milan, in 1983, with the intention of design and production of electrical measurement and control equipment for the electric and automation industries, accommodating all standard electrical parameters.

In doing **Revalco** took full advantage of latest technologies to produce modern high quality products taking into consideration the requirements of each potential industry in relation to their installation and use in the field.

It has always been Revalcos' strategy to see that global quality is maintained to the high standard incorporated in the manufacture as managed by definite quality procedures supported by the Quality Assurance Officers. The procedures that that have been adopted and the organisation to apply them, has been approved by the CSQ (Certification of Quality Systems) and has certified that the quality of the systems conform to the standards of UNI EN ISO 9001/2000.

The CISQ Federation (Italian Certification of Quality Systems), of which CSQ is an integral branch has collaborated with the certification offices of IQNet (International Quality Systems Assessment and Certification Network), to gain a mutual agreement in the recognition of the certifications.

As a result of this agreement **Revalco** can claim the IQNet certification and international validity of CSQ certification. This prestigious recognition confirms the quality standard of **Revalco** products.

The range of products cover a full market range of Analogue and Digital instruments, ranging from standard Ammeters and Voltmeters through to sophisticated Electronic Analysers and Multifunction Metering Systems, for both flush Panel, Switchboard mounting and also for Din Rail mounting.

These are supported by a wide range of associated equipment such as Current and Voltage Transformers and Shunts, Measurement Transducers, Control Relay and Surge Protection.

Other products available includes Time and Pulse Counters, Switches, Audio Alarms and Buzzers, Timers, Power Supplies, and Earth Leakage measurement equipment. Safety Transformers for general use and Bell Transformers Din Rail Modular versions being the latest additions to the very comprehensive range of products available from **Revalco**.

Visit our Web Site www.revalco.it for further details.



UNI EN ISO 9001:2000 - N° 9105.REVA



Choose certainty.
Add value.

April 30, 2009

Prüfbericht / Test report

Auftraggeber
Applicant
Geräteart
Type of equipment
Typenbezeichnung
Type designation
Prüfbericht
Number
Test report no.
Prüfgrundlage
Test standards

REVALCO S.r.l.
Moving Coil Indicator
ERCR96X48 V0
70183-00157-1 (Edition 2)
EN 50155:2001 + A1:2002 + Corrigendum:2003
EN 50121-3-2:2006

TÜV SÜD SENTON GmbH
Äußere Frühlingstraße 45
D-94315 Straubing
Germany

Phone: +49 9421 5522-0
Fax: +49 9421 5522-99
eMail: office@senton.de
Web: www.senton.de



Summary

Die Prüfungen wurden nach folgenden Vorschriften durchgeführt:
Tests were performed according to:
EN 50155:2001 + A1:2002 + Corrigendum:2003
EN 50121-3-2:2006

Durchgeführte Prüfung Test performed	Grenzwerte Limits		Prüfergebnis Test result		
	Abstand Margin	Überschritten Exceeded by	Erfüllt Passed	Nicht erfüllt Not Passed	Kriterium Criterion
Störspannung / Disturbance voltage			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Gestrahlte Störgrößen / Radiated disturbance			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Oberschwingungen / Harmonics			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Spannungsschwankungen / Flicker			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Entladung statischer Elektrizität / Electrostatic discharge			<input checked="" type="checkbox"/>	<input type="checkbox"/>	B
Elektromagnetische HF-Felder / RF-electromagnetic fields			<input checked="" type="checkbox"/>	<input type="checkbox"/>	A
Schnelle Transiente / Electrical fast transients			<input checked="" type="checkbox"/>	<input type="checkbox"/>	B
Stoßspannungen / Surges			<input type="checkbox"/>	<input checked="" type="checkbox"/>	B
Induzierte leitungsgeführte Störgrößen / Induced conducted disturbances			<input checked="" type="checkbox"/>	<input type="checkbox"/>	A
Magnetfelder mit energietechnischer Frequenz / Power magnetic fields			<input type="checkbox"/>	<input checked="" type="checkbox"/>	A
Spannungseinbrüche und -unterbrechungen / Voltage dips and interruptions			<input type="checkbox"/>	<input checked="" type="checkbox"/>	B/C

Bemerkungen / Remarks:
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Die Prüfergebnisse beziehen sich ausschließlich auf das zur Prüfung vorgestellte Prüfmuster. Ohne schriftliche Genehmigung des Prüflabors darf der Prüfbericht auszusweise nicht vervielfältigt werden. The test results relate only to the individual item which has been tested. Without the written approval of the test laboratory this report may not be reproduced in extracts.

Datum / Date	Geprüft von / Tested by	Freigebe durch / Checked by	Prüfergebnis / Test Result
30.04.2009	 Karl Roidt Responsible for testing	 Johann Roidt Laboratory manager	<input checked="" type="checkbox"/> Erfüllt / Passed <input type="checkbox"/> Nicht erfüllt / Not passed



Choose certainty.
Add value.

April 30, 2009

Prüfbericht / Test report

Auftraggeber
Applicant
Geräteart
Type of equipment
Typenbezeichnung
Type designation
Prüfbericht
Number
Test report no.
Prüfgrundlage
Test standards

REVALCO S.r.l.
Moving Coil Indicator
ERCR96X48 V0
70183-00157-4 (Edition 2)
DIN EN 50155; VDE 0115-200:2004-01
DIN EN 61373; VDE 0115-106:1999-11

TÜV SÜD SENTON GmbH
Äußere Frühlingstraße 45
D-94315 Straubing
Germany

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Summary

Die Prüfungen wurden nach folgenden Vorschriften durchgeführt:
Tests were performed according to:
DIN EN 50155; VDE 0115-200:2004-01 (teilweise / partly)
DIN EN 61373; VDE 0115-106:1999-11 (teilweise / partly)

Durchgeführte Prüfung Prüfung durchgeführt	Betriebsart Betriebsart		Prüfergebnis Prüfergebnis		
	Betrieb Operating	Transport/ Lagerung Transport/ Storage	Erfüllt Passed	Nicht erfüllt Not Passed	Kriterium Criterion
Kälte / Cold	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Trockene Wärme / Dry Heat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Feuchte Wärme, zyklisch / Damp Heat, cyclic	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Breitbandrauschen / Broadband Random	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Shock / Shock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Bemerkungen / Remarks:
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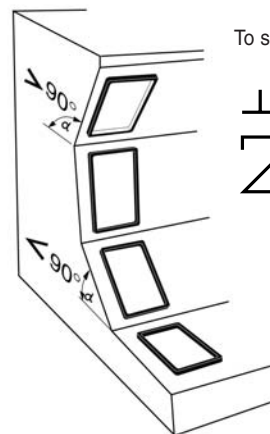
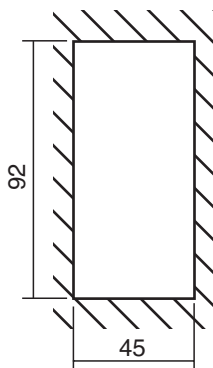
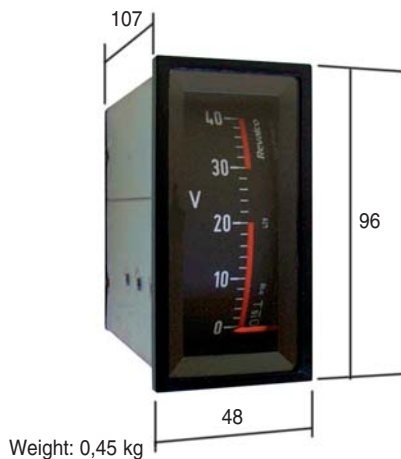
Die Prüfergebnisse beziehen sich ausschließlich auf das zur Prüfung vorgestellte Prüfmuster. Ohne schriftliche Genehmigung des Prüflabors darf der Prüfbericht auszusweise nicht vervielfältigt werden. The Prüfergebnisse relate only to the individual item which has been tested. Without the written approval of the test laboratory this report may not be reproduced in extracts.

Datum / Date	Geprüft von / Tested by	Freigebe durch / Checked by	Prüfergebnis / Prüfergebnis
30.04.2009	 Reinhold Markl Responsible for testing	 Johann Roidt Laboratory manager	<input checked="" type="checkbox"/> Erfüllt / Passed <input type="checkbox"/> Nicht erfüllt / Not passed

DIMENSIONS

CUT OUT

MOUNTING POSITION



To specify when ordering:

- = vertical
- = horizontal
- = 20°...45°...60° degree

VOLTMETERS

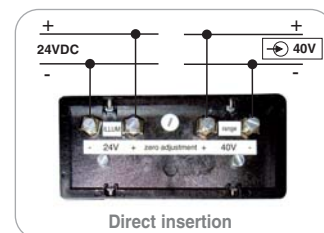
MOVING COIL INSTRUMENTS FOR DIRECT CURRENT



ERCR96X48 V0-20Z5

- INSULATION CLASS
- POLLUTION DEGREE
- EXECUTION
- HOUSING
- VIBRATION RESISTANCE
- SHOCK RESISTANCE
- INTERNAL ILLUMINATION
- PROTECTION DEGREE
- ACCURACY CLASS
- OVERLOAD
- TERMINALS
- ZERO ADJUSTER
- INPUT
- READING END SCALE VALUE
- TEMPERATURE
- RELATIVE HUMIDITY

II - 150V CAT III (double insulation)
2 (CEI EN 61010-1 standard)
tropicalized, vibration resistant and antireflex glass
metallic
up to 5g, frequency 5...80Hz applied on 3 axes
max 30g applied on 3 axes
by white LED, 24VDC, absorbed current 47mA;
LED duration 70.000 hours
IP55 on front, IP00 on terminals (CEI EN 60529 standard)
1,5 (CEI EN 60051-1; 60051-2; 60051-9; CEI EN 60688 standards)
1,2 times (20%) the nominal current continuously,
up to 2 times the nominal current for less than 5 seconds (CEI EN 61010-1 standard)
M3 screws - cable with metal fork 3 mm
on the back of the instruments
40VDC
vertical from 0 to 40V
black scale plate; divisions, number, words and symbols white colour
red sector from 0 to 20V and from 30 to 40V
orange pointer
working: 20°C +/- 10°C respecting the accuracy class (IEC par. 8.7.1 standard)
from -25°C to +70°C without guarantee of accuracy class
storage: from -40°C to +80°C
85% max, without condensation at 35°C for max 60 days/year
with medium annual value not higher than 65% (DIN 40040 standard)



MILLIVOLTMETERS

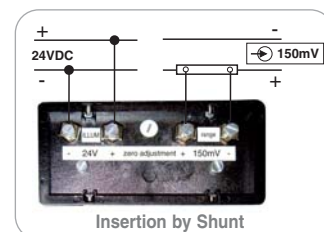
MOVING COIL INSTRUMENTS FOR DIRECT CURRENT



ERCR96X48 V0-20Z6

- INSULATION CLASS
- POLLUTION DEGREE
- EXECUTION
- HOUSING
- VIBRATION RESISTANCE
- SHOCK RESISTANCE
- INTERNAL ILLUMINATION
- PROTECTION DEGREE
- ACCURACY CLASS
- OVERLOAD
- TERMINALS
- ZERO ADJUSTER
- INPUT
- READING END SCALE VALUE
- TEMPERATURE
- RELATIVE HUMIDITY

II - 150V CAT III (double insulation)
2 (CEI EN 61010-1 standard)
tropicalized, vibration resistant and antireflex glass
metallic
up to 5g, frequency 5...80Hz applied on 3 axes
max 30g applied on 3 axes
by white LED, 24VDC, absorbed current 47mA;
LED duration 70.000 hours
IP55 on front, IP00 on terminals (CEI EN 60529 standard)
1,5 (CEI EN 60051-1; 60051-2; 60051-9; CEI EN 60688 standards)
1,2 times (20%) the nominal current continuously,
up to 2 times the nominal current for less than 5 seconds (CEI EN 61010-1 standard)
M3 screws - cable with metal fork 3 mm
on the back of the instruments
150-0-150mVDC
vertical -300...0...+300A
black scale plate; divisions, number, words and symbols white colour
red sector from -300 to -200A and from 200 to 300A
orange pointer
working: 20°C +/- 10°C respecting the accuracy class (IEC par. 8.7.1 standard)
from -25°C to +70°C without guarantee of accuracy class
storage: from -40°C to +80°C
85% max, without condensation at 35°C for max 60 days/year
with medium annual value not higher than 65% (DIN 40040 standard)



MILLIAMMETERS

MOVING COIL INSTRUMENTS FOR DIRECT CURRENT



ERCR96X48 V0-20Z1

- INSULATION CLASS
- POLLUTION DEGREE
- EXECUTION
- HOUSING
- VIBRATION RESISTANCE
- SHOCK RESISTANCE
- INTERNAL ILLUMINATION

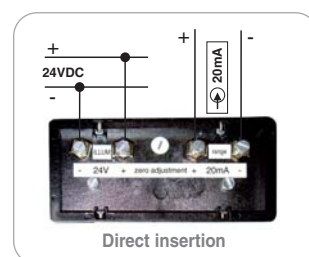
- PROTECTION DEGREE
- ACCURACY CLASS
- OVERLOAD

- TERMINALS
- ZERO ADJUSTER
- INPUT
- READING END SCALE VALUE

- TEMPERATURE

- RELATIVE HUMIDITY

II - 150V CAT III (double insulation)
2 (CEI EN 61010-1 standard)
tropicalized, vibration resistant and antireflex glass
metallic
up to 5g, frequency 5...80Hz applied on 3 axes
max 30g applied on 3 axes
by white LED, 24VDC, absorbed current 47mA;
LED duration 70.000 hours
IP55 on front, IP00 on terminals (CEI EN 60529 standard)
1,5 (CEI EN 60051-1; 60051-2; 60051-9; CEI EN 60688 standards)
1,2 times (20%) the nominal current continuously,
up to 2 times the nominal current for less than 5 seconds (CEI EN 61010-1 standard)
M3 screws - cable with metal fork 3 mm
on the back of the instruments
20mADC
vertical from 0 to 1,5kA
black scale plate; divisions, number, words and symbols white colour
red sector from 1 to 1,5kA
orange pointer
working: 20°C +/- 10°C respecting the accuracy class (IEC par. 8.7.1 standard)
from -25°C to +70°C without guarantee of accuracy class
storage: from -40°C to +80°C
85% max, without condensation at 35°C for max 60 days/year
with medium annual value not higher than 65% (DIN 40040 standard)



ERCR96X48 V0-20Z2

- INPUT
- READING END SCALE VALUE

20mADC
vertical from 0 to 120°C
black scale plate; divisions, number, words and symbols white colour
red sector from 65 to 120°C
orange pointer



ERCR96X48 V0-20Z3

- INPUT
- READING END SCALE VALUE

20mADC
vertical from 0 to 120°C
black scale plate; divisions, number, words and symbols white colour
red sector from 0 to 45°C and from 100 to 120°C
orange pointer



ERCR96X48 V0-20Z4

- INPUT
- READING END SCALE VALUE

20mADC
vertical from 0 to 2000 Giri/1' (round per minute)
black scale plate; divisions, number, words and symbols white colour
red sector from 1800 to 2000 Giri/1' (round per minute)
orange pointer

NOTE

Different executions concerning dimensions, end scale values, input values, colours and mounting position can be manufactured under request.



Revalco®

Via Giorgio Stephenson, 90 - 20157 MILANO ITALY
Telephone ++39 02.39002153 - Fax ++39 02.39002207
E-mail: info@revalco.it - Web site: www.revalco.it

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