



ACM 500 / ACM 510

Technical Datasheet

Conductivity sensor

- Quick response time $T_{90} < 3s$
- Four freely configurable measuring ranges
- Temperature compensation for each measuring range from 0 to 5%/K

Inductive conductivity meter with stainless steel connection head

The conductivity sensor **ACM 500 / ACM 510** with stainless steel connection head is a compact system designed for measurement of inductive conductivity. Its small and compact design allows installation in pipelines sized DN40 and larger. With its extremely fast response time it is particularly suitable for applications in the field of product separation.

The HWM 500 sanitary process welding sleeve ensures sanitary installation.



① ACM 500

② LC display for conductivity and temperature

Highlights

- Integral LCD display
- 2 current outputs for conductivity and temperature
- Can be installed on DN40 and larger.
- Extended sensor possible (ACM 510)
- Insensitive to fouling and polarisation

Industries

- Food & Beverages
- Pharmaceutical
- Cosmetics

Typical applications

- Media separations
- Phase separation of cleaning products
- Shortening of the transition phase of CIP systems.

Options and variants



ACM 500 / ACM 510

When using cleaning agents, it is important to separate water/bases and acids reliably and precisely. The quicker the sensor detects a change of medium, the more efficiently is the use of cleaning detergents. This optimizes the application and saves costs for chemicals, etc.

Very quick temperature compensation is ensured thanks to the temperature sensor position in the sensor tip. To support this, the sensor tip is manufactured from stainless steel, and not from PEEK. This means that precise conductivity is available as quickly as possible.

Another plus point is the high operating temperature limit, which means that the ACM 500 / 510 can be built directly into the SIP systems.



LC display

The integral display for mS/cm and °C means that the user can carry out monitoring directly on the spot. This is a tremendous advantage, especially when manually controlled cleaning processes are involved.

Rotary / pushbutton switches

- Press: Program version
- Turn: Select menu
- Press: Configure menu
- Rotate: Select option; left: value decreases, right: value increases

Technical data

ACM 500 & ACM 510

Measuring system

Functional principle	Inductive; 2 toroidal core transformers
LC display	Conductivity and temperature

Operating conditions

Operating pressure	≤ 10 bar / 145 psi
Operating temperature	-20...+130°C / -4...+266°F (140°C / 285°F < 1 hour)
Ambient temperature	-20...+60°C / -4...+140°F
Relative humidity	< 100%, condensing

Materials

Probe	Stainless steel 1.4404 / AISI 316 L
Housing	Stainless steel 1.4301 / AISI 304
Process connection	Stainless steel 1.4404 / AISI 316 L
Insulation material	PEEK (FDA-accepted)
M16 cable gland	Plastic
M12 plug	Brass, nickel-plated

Process connections

Thread	G1" hygienic ①
Protection rating (EN 60529)	IP67
Vibrations	IEC 68-2-6, GL test2

Electrical connection

Power supply	18...36 VDC; max. 180 mA
Response time	T ₉₀ < 3 s
Output, conductivity	
Measuring range	4 ranges, externally configurable: 0.5...999 mS/cm
Temperature compensation	0...5%/K, ranges, adjustable
Temperature drift	< 110 ppm/°C
Accuracy	±1% of the selected measuring range
Repeatability	0.2 % of the measuring range
Output	4...20 mA; max. load 500 ohm; galvanically isolated
Overrange	21.6 mA

Output, temperature	
Accuracy	< $\pm 0.2^{\circ}\text{C}$ / 32°F ($20\dots+50^{\circ}\text{C}$ / $68\dots+122^{\circ}\text{F}$);
	< $\pm 1.5^{\circ}\text{C}$ / 34.7°F ($-20\dots+140^{\circ}\text{C}$ / $-4\dots+284^{\circ}\text{F}$)
Resolution	0.1°C
Temperature drift	< 150 ppm/°C
Repeatability	0.2 % of the measuring range
Output	4...20 mA; max. load 500 ohm; galvanically isolated
Subrange / overrange	2.4 / 21.6 mA

Approvals

Immunity (EMC)	EN 61000-6-2
Emission (EMC)	EN 50081-1

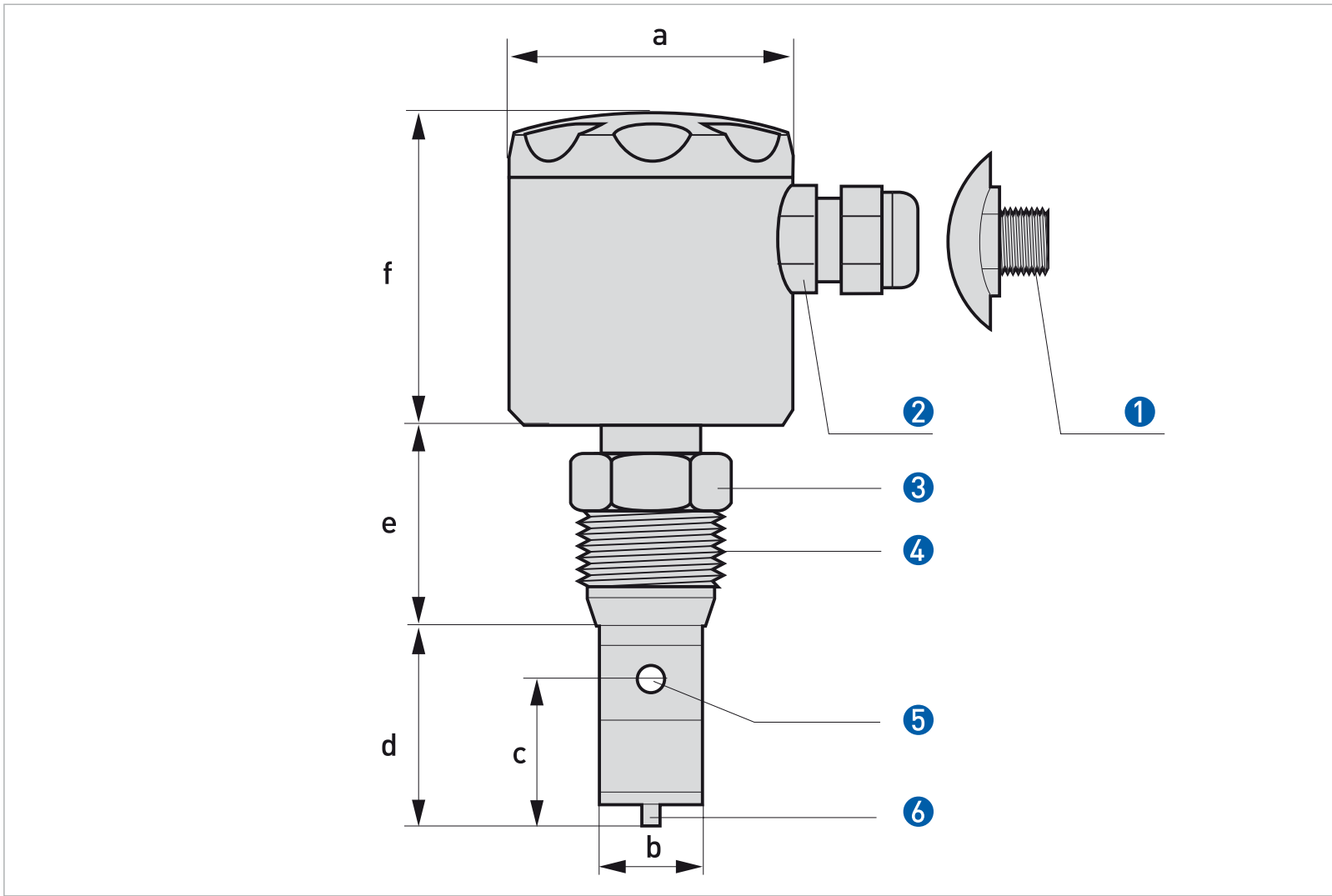
Accessories

Hygienic process sleeve for other process connections	Option ②
---	----------

① For further information see additional data sheet "Accessories for hygienic measuring instruments".

② #For further information see additional data sheet "Accessories for hygienic measuring instruments".

Dimensions



- ❶ M12x1 plug
- ❷ M16x1.5 cable gland
- ❸ SW 36
- ❹ G1"
- ❺ $\varnothing 6$ mm / 0.2" channel bore
- ❻ $\varnothing 3.5$ mm / 0.1" tip of the temperature sensor

Dimensions in mm

	a	b	c	d	e	f
ACM 500 / ACM 510	$\varnothing 89$	$\varnothing 25.5$	26	L ❶	38	98

- ❶ L = 37 mm: Standard sensor shaft (ACM 500); L = 84 mm: Extended sensor shaft (ACM 510)

Dimensions in inches

	a	b	c	d	e	f
ACM 500 / ACM 510	$\varnothing 3.5$	$\varnothing 1$	1	L ❶	1.5	3.9

- ❶ L = 1.5": Standard sensor shaft (ACM 500); L = 3.3": Extended sensor shaft (ACM 510)



KROHNE Product Overview

- Electromagnetic flowmeters
- Variable area flowmeters
- Mass flowmeters
- Ultrasonic flowmeters
- Vortex flowmeters
- Flow controllers
- Level measuring instruments
- Pressure gauges
- Temperature measuring instruments
- Water solutions & analysis
- Oil and gas turnkey solutions

Addresses:

Germany

Northern sales office

KROHNE Messtechnik GmbH & Co. KG
Bremer Str. 133
D-21073 Hamburg
Phone: +49 (0)40 767 3340
Fax: +49 (0)40 767 33412
nord@krohne.de
ZIP code: 10000 - 29999, 49000 - 49999

Western and middle sales office

KROHNE Messtechnik GmbH & Co. KG
Ludwig-Krohne-Straße
D-47058 Duisburg
Phone: +49 (0)203 301 416
Fax: +49 (0)203 301 10416
west@krohne.de
ZIP code: 30000 - 34999, 37000 - 48000, 50000 - 53999, 57000 - 59999, 98000 - 99999

Southern sales office

KROHNE Messtechnik GmbH & Co. KG
Landsberger Str. 392
D-81241 Munich
Phone: +49 (0)89 121 5620
Fax: +49 (0)89 129 6190
sued@krohne.de
ZIP code: 0 - 9999, 80000 - 89999, 90000 - 97999

Southwestern sales office

KROHNE Messtechnik GmbH & Co. KG
Rüdesheimer Str. 40
D-65239 Hochheim/Main
Phone: +49(0)6146) 827 30
Fax: +49 (0)6146 827 312
rhein-main@krohne.de
ZIP code: 35000 - 36999, 54000 - 56999, 60000 - 79999

Instrumentation and control equipment catalog

TABLAR Messtechnik GmbH
Ludwig-Krohne-Straße 5
D-47058 Duisburg
Phone: +49 (0)2 03 305 880
Fax: +49 (0)2 03 305 8888
kontakt@tablar.de www.tablar.de

KROHNE sales companies

International

Australia

KROHNE Australia Pty Ltd
Quantum Business Park 10/287
Victoria Rd Rydalmere NSW 2116
Phone: +61 2 8846 1700
Fax: +61 2 8846 1755
krohne@krohne.com.au

Austria

KROHNE Austria Ges.m.b.H.
Modcenterstraße 14
A-1030 Vienna
Phone: +43 (0)1/203 45 32
Fax: +43 (0)1/203 47 78
info@krohne.at

Belgium

KROHNE Belgium N.V.
Brusselstraat 320
B-1702 Groot Bijgaarden
Phone: +32 (0)2 4 66 00 10
Fax: +32 (0)2 4 66 08 00
krohne@krohne.be

Brazil

KROHNE Conaut Controles
Automaticos Ltda.
Estrada Das Águas Espraiadas, 230
C.P. 56 06835 - 080 EMBU - SP
Phone: +55 (0)11-4785-2700
Fax: +55 (0)11 4785-2768
conaut@conaut.com.br

China

KROHNE Measurement Instruments
(Shanghai) Co. Ltd., (KMIC)
Room 1501
1033 Zhaojiabang Road
Shanghai 200030
Phone: +86 21 6487 9611
Fax: +86 21 6438 7110
info@krohne-asia.com

Czech Republic

Krohne CZ, spol. s r.o.
Sobická 156
63800 Brno
Phone: +420 (0)545.242 627
Fax: +420 (0)545 220 093
brno@krohne.cz

France

KROHNE S.A.S.
Les Ors BP 98
F-26103 ROMANS Cedex
Phone: +33 (0)4 75 05 44 00
Fax: +33 (0)4 75 05 00 48
info@krohne.fr

Great Britain

KROHNE Ltd.
Rutherford Drive
Park Farm Industrial Estate
Wellingborough
Northants NN8 6AE
Phone: +44 (0)19 33 408 500
Fax: +44 (0)19 33 408 501
info@krohne.co.uk

CIS

Kanex KROHNE Engineering AG
Business-Centre Planeta
Office 404 ul.
Marxistskaja 3
109147 Moscow/Russia
Phone: +7 (0)095 911 7165
Fax: +7 (0)095 742 8873
krohne@dol.ru

India

Krohne Marshall Ltd.
A-34/35, M.I.D.C. Industrial Area,
H-Block
Pimpri Poona 411018
Phone: +91 (0)202 744 2020
Fax: +91 (0)202 744 2020
pcu@vsnl.net

Iran

KROHNE Liaison Office
North Sohrevardi Ave. 26,
Sarmad St., Apt. #9
Tehran 15539
Phone: +9821 8874 5973
Fax: +9821 8850 1268
krohne@krohneiran.com

Italy

KROHNE Italia Srl.
Via V. Monti 75
I-20145 Milan
Phone: +39 02 4300 661
Fax: +39 02 4300 6666
info@krohne.it

Korea

KROHNE Korea
Room 508 Miwon Bldg 43
Yoido-Dong Youngdeungpo-Ku
Seoul, Korea
Phone: 00-82-2-782-1900
Fax: 00-82-2-780-1749
krohnekorea@krohnekorea.com

Netherlands

KROHNE Nederland B.V.
Kerkeplaat 14
NL-3313 LC Dordrecht
Phone: +31 (0)78 630 6200
Fax: +31 (0)78 630 6405
Service Direct: +31 (0)78 630 6222
info@krohne.nl

Norway

KROHNE Norway A.S.
Ekholtveien 114
NO-1521 Moss
Phone: +47 (0)69 264 860
Fax: +47 (0)69 267 333
postmaster@krohne.no

Poland

KROHNE Polska Sp.z.o.o.
ul. Stary Rynek Oliwski 8a
80-324 Gdansk
Phone: +48 (0)58 520 9211
Fax: +48 (0)58 520 9212
info@krohne.pl

Switzerland

KROHNE AG
Uferstr. 90
CH-4019 Basel
Phone: +41 (0)61 638 30 30
Fax: +41 (0)61 638 30 40
info@krohne.ch

Singapore

Tokyo Keiso - KROHNE (Singapore)
Pte. Ltd.
14, International Business Park,
Jurong East
Chiyoda Building, #01-01/02
Singapore 609922
Phone: (65) 6567 4548
Fax : (65) 6567 9874
tks@tokyokeiso-krohne.com.sg

Republic of South Africa

KROHNE Pty. Ltd.
Bushbock Close
Corporate Park South
Midrand, Gauteng
P.O. Box 2069
Midrand, 1685
Phone: +27 (0)11 314 1391
Fax: +27 (0)11 314 1681
midrand@krohne.co.za

Spain

I.I. KROHNE IBERIA, S.r.l.
Poligono Industrial Nilo
Calle Brasil, nº. 5
28806 Alcalá de Henares Madrid
Phone: +34 (0)91 883 2152
Fax: +34 (0)91 883 4854
krohne@krohne.es

USA

KROHNE, Inc.
7 Dearborn Road
Peabody, MA 01960
Phone: +1 (800) FLOWING
Phone: +1 (978) 535 6060 (in MA)
info@krohne.com

Representatives

Algeria
Argentina
Cameroon
Canada
Chile
Columbia
Croatia
Denmark
Ecuador
Egypt
Finland
Gabon
Ghana
Greece
Hong Kong
Hungary
Indonesia
Iran
Ireland
Israel
Ivory Coast
Japan
Jordan
Kuwait
Libya
Lithuania
Malaysia
Mauritius
Mexico
Morocco
New Zealand
Peru
Portugal
Romania
Saudi Arabia
Senegal
Slovakia
Slovenia
Sweden
Taiwan
Thailand
Tunisia
Turkey
Venezuela
Yugoslavia

Other countries

KROHNE Messtechnik GmbH & Co. KG
Ludwig-Krohne-Str. 5
D-47058 Duisburg
Phone: +49 (0)203 301 0
Fax: +49 (0)203 301 389
export@krohne.de