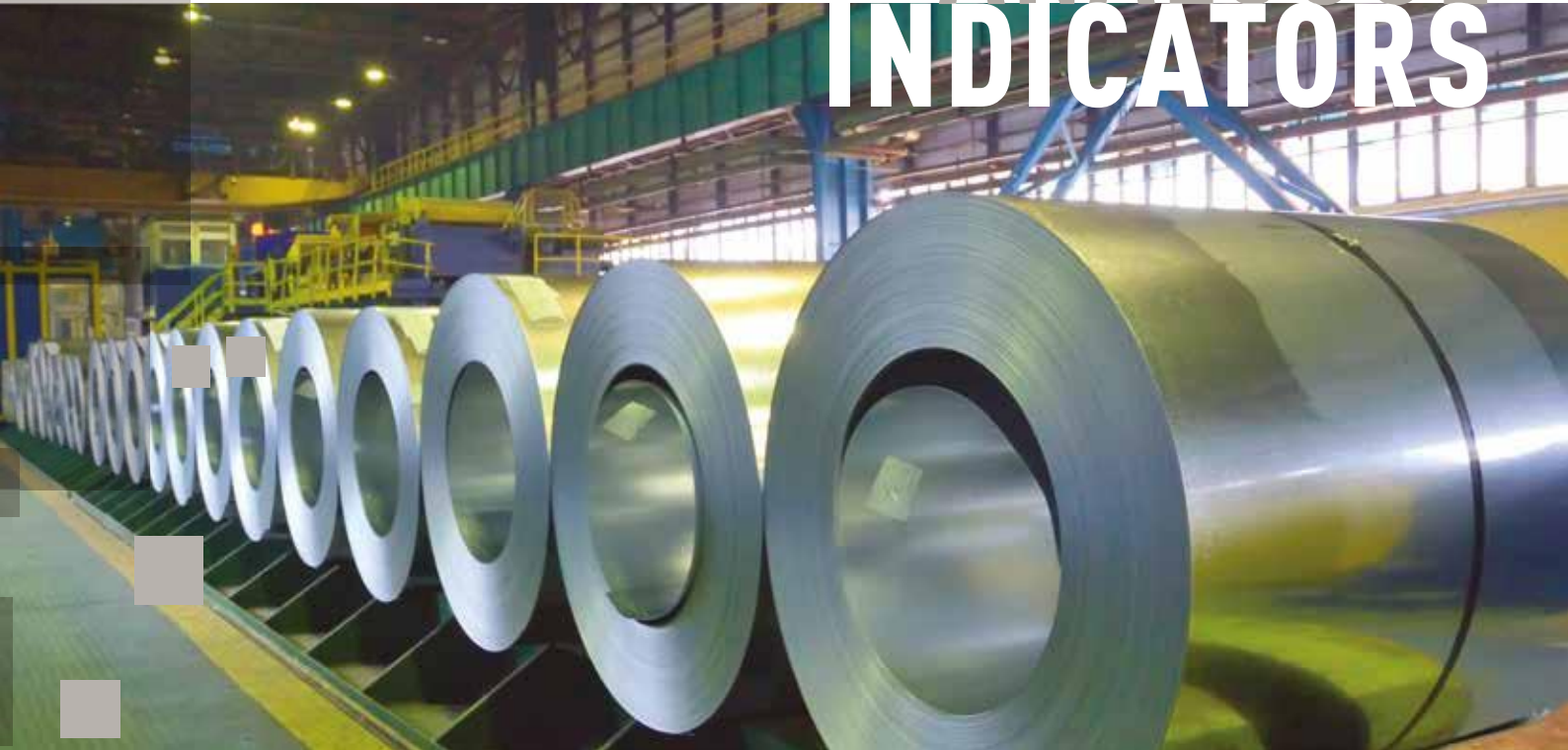








ANALOGUE INDICATORS





Analog indicators

Flush mounting analog meters RQ series

MEASURING	ALTERNATING CURRENT (AC)		DIRECT CURRENT (DC)		ALTERNATING CURRENT
 RQ48 - 48x48mm RQ72 - 72x72mm RQ96 - 96x96mm					
Type	Ammeters	Voltmeters	Ammeters	Voltmeters	Frequency meters
Technical notes	NT755	NT759	NT760	NT762	NT787
DISPLAY					
Scale	interchangeable				
Scale length	90°				
Standard scale marking	0...In	0...Un	-In...0...In	-Un...0...Un	45...55Hz - 55...65Hz - 45...65Hz
Motor startup marking scale	0...In...2In or 0...In...5In	-	-	-	-
INPUT					
Connection	direct or external CT	direct or external VT	direct or external shunt	direct or external shunt	direct
Measure	true RMS value				frequency
Rating current In (direct)	1...100A	-	50µA...60A (40A for RQ48M)	-	-
Rating current In (CT connection)	5A or 1A	-	1A/60mV... 6000A/60mV	-	-
Rating current In (shunt connection)	-	-	1...600mA	-	-
Rating voltage Un (direct)	-	10...600V	-	10...600V	-
Rating voltage Un (VT connection)	-	VT/100V - VT/110V	-	50...500mV	-
Rating voltage Un (transducers)	-	-	-	5 - 10V	-
Continuous overload	1,2In	1,2Un	1,2In	1,2Un	-
Instantaneous overload	10In/5s	10Un/5s	10In/5s	10Un/5s	-
-Voltage drop	-	-	from 700mV (In=50 µA) up to 60mV (In=10mA...60A)	-	-
Rating frequency fn	50Hz (400Hz in option)		-	-	-
Working frequency	45...65Hz		-	-	-
Accuracy (EN/IEC 60051)	class 1,5 (accuracy class1 in option)				class 0,5 class 1 (45...65Hz)
Rated burden	≤ 1,1VA	≤ 3,5VA (500V) - ≤ 3VA (300V)	-	10mA with Un - 60...300mV 1mA (1kΩ/V) with Un 0,5...600V	≤ 4VA
NOMINAL RANGE					
Voltage	-				
Current	-				
Power factor	-				
Waveform	-				
MEASURING RANGE					
Active power	-				
Reactive power	-				
Power of calibration Pc (Qc)	-				
Cosφ	-				
INSULATION (EN/IEC 61010-1)					
Installation category	III				
Pollution degree	2				
Insulation voltage rating	600V (Phase - Neutral)				
A.C. voltage test (current input towards voltage input and output)	-				
A.C. voltage test (all circuits and earth)	4kV r.m.s. 50Hz/5s				
ENVIRONMENTAL CONDITIONS					
Nominal temperature range	5...40°C				
Limit range for storage and transport	-40...80°C				
Vibration test according to	EN/IEC 60051-1				
Shock test according to	EN/IEC 60051-1				
Max. power dissipation	-				
MECHANICAL FEATURES					
Mounting	flush mounting				
Housing material	self-extinguishing polycarbonate				
Connections	screw terminal / fast-on 6,3 x 0,8mm				
Protection degree (EN/IEC 60529)	IP52 front frame (IP54 in option), IP20 terminals (with protection)				
Weight	120gr (RQ48) - 190gr (RQ72) - 260gr (RQ96)				

ANALOG METERS



Thermal ammeters
NT770

Thermal-magnetic ammeters
NT764

Power meters
NT701

Cosφ meters
NT705

interchangeable

90°

upon request

0...1,2In

0...In

-

by external CT /5A

direct connection or by external VT/CT

thermal current

thermal current

5A

1 - 5A

-

100-110-230-240-400-415-440V (ph-ph)

1,2In

In - Un

-

10In/5s

2In/5s - 2Un/5s

In and 2Un/5s
Un and 2In/0,5s

50Hz

45..65Hz

45..65Hz

47...63Hz

class 1,5
(accuracy class
1 in option)

class 1,5
(instantaneous
current) - class 3
(thermal current)

class 1,5

≤ 2,5VA

voltage ≤ 1VA - current ≤ 0,5VA

85...115%Un (max. 450V)

0...120%In

cosφ 0,5 inductive
senf 0,5 inductive

sinusoidal, distortion factor < 20%

-Pn...0...Pn

-Qn...0...Qn

0,6...1,2Pn (Qn)

0,5 inductive
1...0,5 capacitive

III

2

600V (Phase - Neutral)

300V (Phase - Neutral)

2,5kV r.m.s. 50Hz/1min

4kV r.m.s. 50Hz/1min

5...40°C

0...40°C

-40...80°C

-10...55°C

EN/IEC 60051-1

EN62052-11

EN/IEC 60051-1

EN62052-11

-

≤ 3,6W

flush mounting

self-extinguishing polycarbonate

screw terminal / fast-on 6,3 x 0,8mm

IP52 front frame (IP54 in option), IP20 terminals (with protection)

120gr (RQ48) - 190gr (RQ72) - 260gr (RQ96)

Wiring diagrams

Ammeter

AC measuring



DC measuring



AC measuring



DC measuring



Voltmeter

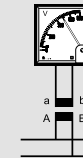
AC measuring



DC measuring



AC measuring

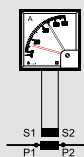


DC measuring



Thermal ammeter

RQ48T
RQ72T
RQ96T



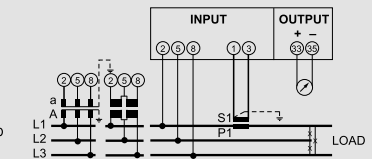
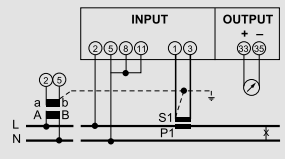
RQ72TE
RQ96TE



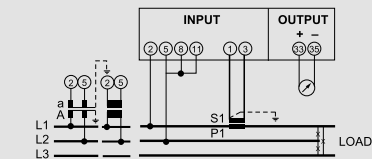
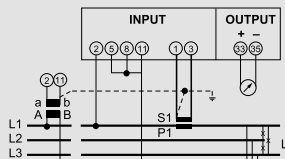
Frequency meter



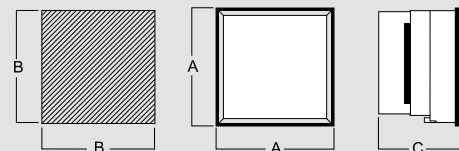
Power meter



Cosφ meter



Dimensions



Dim. (mm)	A	B	C
RQ48...	48x48	45x45	75
RQ72...	72x72	68x68	69
RQ96...	96x96	92x92	69

Analog indicators

Flush mounting analog meters for alternating current and voltage RQ series



Cat. Nos.			Alternating current ammeters by CT	
			Direct indication of input current or primary current of external CT	
			Moving iron equipment	
			Input by external CT /5A or /1A	
			Version for starting motor 2In or 5In	
			Scale length 90° - Accuracy class 1,5	
RQ48E	RQ72E	RQ96E	Input	Scale
AN12510000	AN22510000	AN32510000	-/5A	*
AN12D1A500	AN22D1A500	AN32D1A500	5/5A	0...5A
AN1251B100	AN2251B100	AN3251B100	10/5A	0...10A
AN1251B150	AN2251B150	AN3251B150	15/5A	0...15A
AN1251B200	AN2251B200	AN3251B200	20/5A	0...20A
AN1251B250	AN2251B250	AN3251B250	25/5A	0...25A
AN1251B300	AN2251B300	AN3251B300	30/5A	0...30A
AN1251B400	AN2251B400	AN3251B400	40/5A	0...40A
AN1251B500	AN2251B500	AN3251B500	50/5A	0...50A
AN1251B600	AN2251B600	AN3251B600	60/5A	0...60A
AN1251B700	AN2251B700	AN3251B700	70/5A	0...70A
AN1251B750	AN2251B750	AN3251B750	75/5A	0...75A
AN1251B800	AN2251B800	AN3251B800	80/5A	0...80A
AN1251C100	AN2251C100	AN3251C100	100/5A	0...100A
AN1251C120	AN2251C120	AN3251C120	120/5A	0...120A
AN1251C125	AN2251C125	AN3251C125	125/5A	0...125A
AN1251C150	AN2251C150	AN3251C150	150/5A	0...150A
AN1251C160	AN2251C160	AN3251C160	160/5A	0...160A
AN1251C200	AN2251C200	AN3251C200	200/5A	0...200A
AN1251C250	AN2251C250	AN3251C250	250/5A	0...250A
AN1251C300	AN2251C300	AN3251C300	300/5A	0...300A
AN1251C400	AN2251C400	AN3251C400	400/5A	0...400A
AN1251C500	AN2251C500	AN3251C500	500/5A	0...500A
AN1251C600	AN2251C600	AN3251C600	600/5A	0...600A
AN1251C700	AN2251C700	AN3251C700	700/5A	0...700A
AN1251C750	AN2251C750	AN3251C750	750/5A	0...750A
AN1251C800	AN2251C800	AN3251C800	800/5A	0...800A
AN1251D100	AN2251D100	AN3251D100	1000/5A	0...1000A
AN1251D120	AN2251D120	AN3251D120	1200/5A	0...1,2kA
AN1251D125	AN2251D125	AN3251D125	1250/5A	0...1,25kA
AN1251D150	AN2251D150	AN3251D150	1500/5A	0...1,5kA
AN1251D160	AN2251D160	AN3251D160	1600/5A	0...1,6kA
AN1251D200	AN2251D200	AN3251D200	2000/5A	0...2kA
AN1251D250	AN2251D250	AN3251D250	2500/5A	0...2,5kA
AN1251D300	AN2251D300	AN3251D300	3000/5A	0...3kA
AN1251D400	AN2251D400	AN3251D400	4000/5A	0...4kA
AN1251D500	AN2251D500	AN3251D500	5000/5A	0...5kA
AN1251D600	AN2251D600	AN3251D600	6000/5A	0...6kA
AN1251D800	AN2251D800	AN3251D800	8000/5A	0...8kA
AN1251E100	AN2251E100	AN3251E100	10000/5A	0...10kA

Other executions available
2In overscale: Replace the 6th number (1) of product code with 2
5In overscale: Replace the 6th number (1) of product code with 5
CT /1A connection: Replace the 5th number (5 or D) of product code with 1

Note 1 - in addition to the Cat. Nos. indicate the scale and the VT ratio. The ladder should correspond to the product of the input value selected and the TV report
Note 2 - in addition to the product code indicate the scale and the VT ratio

Cat. Nos.			Alternating current ammeters direct connection	
			Input	Scale
RQ48E	RQ72E	RQ96E		
AN12D1A100	AN22D1A100	AN32D1A100		0...1A
AN12D1A150	AN22D1A150	AN32D1A150		0...1.5A
AN12D1A200	AN22D1A200	AN32D1A200		0...2A
AN12D1A250	AN22D1A250	AN32D1A250		0...2.5A
AN12D1A300	AN22D1A300	AN32D1A300		0...3A
AN12D1A400	AN22D1A400	AN32D1A400		0...4A
AN12D1A500	AN22D1A500	AN32D1A500		0...5A
AN12D1A600	AN22D1A600	AN32D1A600		0...6A
AN12D1B100	AN22D1B100	AN32D1B100	direct	0...10A
AN12D1B150	AN22D1B150	AN32D1B150		0...15A
AN12D1B200	AN22D1B200	AN32D1B200		0...20A
AN12D1B250	AN22D1B250	AN32D1B250		0...25A
AN12D1B300	AN22D1B300	AN32D1B300		0...30A
AN12D1B400	AN22D1B400	AN32D1B400		0...40A
AN12D1B500	AN22D1B500	AN32D1B500		0...50A
AN12D1B600	AN22D1B600	AN32D1B600		0...60A
AN12D1B800	AN22D1B800	AN32D1B800		0...80A
AN22D1C100	AN22D1C100	AN32D1C100		0...100A

Other executions available
2In overscale: Replace the 6th number (1) of product code with 2
5In overscale: Replace the 6th number (1) of product code with 5

Cat. Nos.			Alternating voltage voltmeters by VT	
			Direct indication of input voltage or primary voltage of external VT	
			Moving iron equipment	
			Input by external VT /100V - /110V	
			Scale length 90° - Accuracy class 1,5	
RQ48E	RQ72E	RQ96E	Input	Scale
AN15111111	AN25111111	AN35111111	0...100V	note1
AN15211111	AN25211111	AN35211111	0...120V	note1
AN15311111	AN25311111	AN35311111	0...125V	note1
AN15411111	AN25411111	AN35411111	0...131.58V	note1
AN15511111	AN25511111	AN35511111	0...133.33V	note1
AN15611111	AN25611111	AN35611111	0...136.36V	note1
AN15711111	AN25711111	AN35711111	0...150V	note1
AN15P11111	AN25P11111	AN35P11111	other values	note 2

Cat. Nos.			Alternating voltage voltmeters direct connection	
			Input	Scale
RQ48E	RQ72E	RQ96E		
AN15DDB100	AN25DDB100	AN35DDB100		0...10V
AN15DDB150	AN25DDB150	AN35DDB150		0...15V
AN15DDB250	AN25DDB250	AN35DDB250		0...25V
AN15DDB300	AN25DDB300	AN35DDB300		0...30V
AN15DDB400	AN25DDB400	AN35DDB400		0...40V
AN15DDB600	AN25DDB600	AN35DDB600		0...60V
AN15DDC100	AN25DDC100	AN35DDC100	direct	0...100V
AN15DDC150	AN25DDC150	AN35DDC150		0...150V
AN15DDC200	AN25DDC200	AN35DDC200		0...200V
AN15DDC250	AN25DDC250	AN35DDC250		0...250V
AN15DDC300	AN25DDC300	AN35DDC300		0...300V
AN15DDC400	AN25DDC400	AN35DDC400		0...400V
AN15DDC500	AN25DDC500	AN35DDC500		0...500V
AN15DDC600	AN25DDC600	AN35DDC600		0...600V

Analog indicators

Flush mounting analog meters for direct current RQ series



Cat. Nos.

Direct current ammeters by shunt c.d.t. 60mV

Direct indication of input current or primary current of external shunt
 Indication of any quantity, directly proportional to signals coming from transducers or sensors
 Moving coil equipment
 Connection by external shunt 1A/60mV...6000A/60mV
 Connection by transducers or sensors 1...600mA - 0...5/10/20 - 4...20mA
 Lateral zero or central zero version
 Live zero or mechanically suppressed (4...20mA)
 Scale length 90° - Accuracy cl.1,5

RQ48M	RQ72M	RQ96M	Input	Scale
AN160A1002	AN260A1002	AN360A1002	1A-60mV	0...1A
AN160A1502	AN260A1502	AN360A1502	1.5A-60mV	0...1.5A
AN160A2002	AN260A2002	AN360A2002	2A-60mV	0...2A
AN160A2502	AN260A2502	AN360A2502	2.5A-60mV	0...2.5A
AN160A3002	AN260A3002	AN360A3002	3A-60mV	0...3A
AN160A4002	AN260A4002	AN360A4002	4A-60mV	0...4A
AN160A5002	AN260A5002	AN360A5002	5A-60mV	0...5A
AN160A6002	AN260A6002	AN360A6002	6A-60mV	0...6A
AN160A8002	AN260A8002	AN360A8002	8A-60mV	0...8A
AN160B1002	AN260B1002	AN360B1002	10A-60mV	0...10A
AN160B1502	AN260B1502	AN360B1502	15A-60mV	0...15A
AN160B2002	AN260B2002	AN360B2002	20A-60mV	0...20A
AN160B2502	AN260B2502	AN360B2502	25A-60mV	0...25A
AN160B3002	AN260B3002	AN360B3002	30A-60mV	0...30A
AN160B4002	AN260B4002	AN360B4002	40A-60mV	0...40A
AN160B5002	AN260B5002	AN360B5002	50A-60mV	0...50A
AN160B6002	AN260B6002	AN360B6002	60A-60mV	0...60A
AN160B8002	AN260B8002	AN360B8002	80A-60mV	0...80A
AN160C1002	AN260C1002	AN360C1002	100A-60mV	0...100A
AN160C1202	AN260C1202	AN360C1202	120A-60mV	0...120A
AN160C1502	AN260C1502	AN360C1502	150A-60mV	0...150A
AN160C2002	AN260C2002	AN360C2002	200A-60mV	0...200A
AN160C2502	AN260C2502	AN360C2502	250A-60mV	0...250A
AN160C3002	AN260C3002	AN360C3002	300A-60mV	0...300A
AN160C4002	AN260C4002	AN360C4002	400A-60mV	0...400A
AN160C5002	AN260C5002	AN360C5002	500A-60mV	0...500A
AN160C6002	AN260C6002	AN360C6002	600A-60mV	0...600A
AN160C8002	AN260C8002	AN360C8002	800A-60mV	0...800A
AN160D1002	AN260D1002	AN360D1002	1kA-60mV	0...1000A
AN160D1202	AN260D1202	AN360D1202	1.2kA-60mV	0...1,2kA
AN160D1502	AN260D1502	AN360D1502	1.5kA-60mV	0...1,5kA
AN160D2002	AN260D2002	AN360D2002	2kA-60mV	0...2kA
AN160D2502	AN260D2502	AN360D2502	2.5kA-60mV	0...2,5kA
AN160D3002	AN260D3002	AN360D3002	3kA-60mV	0...3kA
AN160D4002	AN260D4002	AN360D4002	4kA-60mV	0...4kA
AN160D5002	AN260D5002	AN360D5002	5kA-60mV	0...5kA
AN160D6002	AN260D6002	AN360D6002	6kA-60mV	0...6kA
AN16SB6001	AN26SB6001	AN36SB6001	-...0...60mV	Note 1

Other executions available

Input/central zero scale: Replace the 5th number (0) of product code with 1

Cat. Nos.

Direct current ammeters direct connection

RQ48M	RQ72M	RQ96M	Input	Scale
AN130B5002	AN238B5002	AN338B5002		0...50µA
AN130C1002	AN238C1002	AN338C1002		0...100µA
AN130C1502	AN238C1502	AN338C1502		0...150µA
AN130AC002	AN238C2002	AN338C2002		0...200µA
AN130C2502	AN238C2502	AN338C2502		0...250µA
AN130C4002	AN238C4002	AN338C4002		0...400µA
AN130C5002	AN238C5002	AN338C5002		0...500µA
AN130C6002	AN238C6002	AN338C6002		0...600µA
AN138A1002	AN238A1002	AN338A1002		0...1A
AN138A1502	AN238A1502	AN338A1502	direct	0...1.5A
AN138A2002	AN238A2002	AN338A2002		0...2A
AN138A2502	AN238A2502	AN338A2502		0...2.5A
AN138A3002	AN238A3002	AN338A3002		0...3A
AN138A4002	AN238A4002	AN338A4002		0...4A
AN138A5002	AN238A5002	AN338A5002		0...5A
AN138A6002	AN238A6002	AN338A6002		0...6A
AN138B1002	AN238B1002	AN338B1002		0...10A
AN138B1502	AN238B1502	AN338B1502		0...15A
AN138B2002	AN238B2002	AN338B2002		0...20A
AN138B2502	AN238B2502	AN338B2502		0...25A
AN138B3002	AN238B3002	AN338B3002		0...30A
AN138B4002	AN238B4002	AN338B4002		0...40A
	AN238B5002	AN338B5002		0...50A
	AN238B6002	AN338B6002		0...60A

Other executions available

Input/central zero scale: Replace the 5th number (0) of product code with 1 for µA
Input/central zero scale: Replace the 5th number (8) of product code with 9 for A

Cat. Nos.

Direct current indicators by transducers/sensors

RQ48M	RQ72M	RQ96M	Input	Scale
AN132A1001	AN232A1001	AN332A1001	0...1mA	Note 2
AN132A5001	AN232A5001	AN332A5001	0...5mA	Note 2
AN132B1001	AN232B1001	AN332B1001	0...10mA	Note 2
AN132B2001	AN232B2001	AN332B2001	0...20mA	Note 2
AN133A1001	AN233A1001	AN333A1001	1...0...1mA	Note 2
AN133A5001	AN233A5001	AN333A5001	5...0...5mA	Note 2
AN133B1001	AN233B1001	AN333B1001	10...0...10mA	Note 2
AN133B2001	AN233B2001	AN333B2001	20...0...20mA	Note 2
AN134M0001	AN234M0001	AN334M0001	4...20mA	Note 2
AN135V0001	AN235V0001	AN335V0001	0...4...20mA	Note 2
AN13SA1001	AN23SA1001	AN33SA1001	-...0...1mA	Note 3

Note 1 In addition to the product code indicate the scale to zero shifted eg 20 ... 0 ... 100A 100A = 60mV

Note 2 In addition to the product code indicate the scale corresponding to the input

Note 3 In addition to the product code indicate the scale moved to zero (ie 20-0-100kW 100kW = 1mA)

Analog indicators

Flush mounting analog meters for direct voltage RQ series



Analog indicators

Flush mounting analog meters for frequency RQ series



Cat. Nos.			Direct voltage voltmeters direct connection	
RQ48M	RQ72M	RQ96M	Input	Scale
AN164B1002	AN264B1002	AN364B1002		0...10V
AN164B1502	AN264B1502	AN364B1502		0...15V
AN164B2502	AN264B2502	AN364B2502		0...25V
AN164B3002	AN264B3002	AN364B3002		0...30V
AN164B4002	AN264B4002	AN364B4002		0...40V
AN164B6002	AN264B6002	AN364B6002		0...60V
AN164B8002	AN264B8002	AN364B8002	direct	0...80V
AN164C1002	AN264C1002	AN364C1002		0...100V
AN164C1502	AN264C1502	AN364C1502		0...150V
AN164C2002	AN264C2002	AN364C2002		0...200V
AN164C2502	AN264C2502	AN364C2502		0...250V
AN164C3002	AN264C3002	AN364C3002		0...300V
AN164C4002	AN264C4002	AN364C4002		0...400V
AN164C5002	AN264C5002	AN364C5002		0...500V
AN164C6002	AN264C6002	AN364C6002		0...600V

Direct indication of input voltage
 Indication of any quantity, directly proportional to signals coming from transducers, sensors or shunt
 Moving coil equipment
 Direct connection 10...600V
 Connection by shunt 50...500mV
 Connection by transducers or sensors 5 – 10V
 Lateral zero or central zero version
 Scale length 90° - Accuracy cl.1,5

Cat. Nos.			Frequency meters direct or by VT	
RQ48FI	RQ72FI	RQ96FI	Input	Scale
AN1711	AN2711	AN3711	100V	
AN1712	AN2712	AN3712	110-115V	
AN1713	AN2713	AN3713	230-240V	45...55Hz
AN1714	AN2714	AN3714	400-415V	
AN1715	AN2715	AN3715	440V	
AN1721	AN2721	AN3721	100V	
AN1722	AN2722	AN3722	110-115V	
AN1723	AN2723	AN3723	230-240V	45...65Hz
AN1724	AN2724	AN3724	400-415V	
AN1725	AN2725	AN3725	440V	
AN1731	AN2731	AN3731	100V	
AN1732	AN2732	AN3732	110-115V	
AN1733	AN2733	AN3733	230-240V	55...65Hz
AN1734	AN2734	AN3734	400-415V	
AN1735	AN2735	AN3735	440V	

Direct indication of input frequency
 Direct connection
 Voltage 100...440V
 Moving coil equipment
 Scale length 90°
 Accuracy cl.0,5 (cl.1 45...65Hz)

Other executions available
 Input/Central zero scale: Replace the 5th number (4) of the product code with 5

Cat. Nos.			Direct voltage indicators by transducers/sensors/shunt	
RQ48M	RQ72M	RQ96M	Input	Scale
AN162B5001	AN262B5001	AN362B5001	0...50mV	
AN162B6001	AN262B6001	AN362B6001	0...60mV	
AN162C1001	AN262C1001	AN362C1001	0...100mV	
AN162C1201	AN262C1201	AN362C1201	0...120mV	
AN162C1251	AN262C1251	AN362C1251	0...125mV	
AN162C1501	AN262C1501	AN362C1501	0...150mV	
AN162C3001	AN262C3001	AN362C3001	0...300mV	
AN163B5001	AN263B5001	AN363B5001	50...0...50mV	Note 1
AN163B6001	AN263B6001	AN363B6001	60...0...60mV	
AN163C1001	AN263C1001	AN363C1001	100...0...100mV	
AN163C1201	AN263C1201	AN363C1201	120...0...120mV	
AN163C1251	AN263C1251	AN363C1251	125...0...125mV	
AN163C1501	AN263C1501	AN363C1501	150...0...150mV	
AN163C3001	AN263C3001	AN363C3001	300...0...300mV	
AN164A5001	AN264A5001	AN364A5001	0...5V	
AN164B1001	AN264B1001	AN364B1001	0...10V	
AN165A5001	AN265A5001	AN365A5001	5...0...5V	
AN165B1001	AN265B1001	AN365B1001	10...0...10V	

Note 1 In addition to the product code indicate the scale corresponding to the input.

Analog indicators

Flush mounting analog meters for maximum demand ammeters
RQ series



RQ48 - 48x48mm

RQ72 - 72x72mm

RQ96 - 96x96mm

Analog indicators

Flush mounting analog meters for thermal and moving iron
ammeters RQ series



RQ72 - 72x72mm

RQ96 - 96x96mm

Cat. Nos.

Maximum demand ammeters current by CT Delay time 15min

Detection of mean load condition in a plant
Thermal equipment to show the current demand value
Delay time 15 minutes
Current demand indication 0...1,2In
Max. current demand indication (red pointer)
Red pointer with reset knob (sealable)
Scale lenght 90°

RQ48T	RQ72T	RQ96T	Input	Scale
AN1L251A500	AN2L251A500	AN3L251A500	5/5A	0...6A
AN1L251B100	AN2L251B100	AN3L251B100	10/5A	0...12A
AN1L251B150	AN2L251B150	AN3L251B150	15/5A	0...18A
AN1L251B200	AN2L251B200	AN3L251B200	20/5A	0...24A
AN1L251B250	AN2L251B250	AN3L251B250	25/5A	0...30A
AN1L251B300	AN2L251B300	AN3L251B300	30/5A	0...36A
AN1L251B400	AN2L251B400	AN3L251B400	40/5A	0...48A
AN1L251B500	AN2L251B500	AN3L251B500	50/5A	0...60A
AN1L251B600	AN2L251B600	AN3L251B600	60/5A	0...72A
AN1L251B700	AN2L251B700	AN3L251B700	70/5A	0...84A
AN1L251B750	AN2L251B750	AN3L251B750	75/5A	0...90A
AN1L251B800	AN2L251B800	AN3L251B800	80/5A	0...96A
AN1L251C100	AN2L251C100	AN3L251C100	100/5A	0...120A
AN1L251C120	AN2L251C120	AN3L251C120	120/5A	0...144A
AN1L251C125	AN2L251C125	AN3L251C125	125/5A	0...150A
AN1L251C150	AN2L251C150	AN3L251C150	150/5A	0...180A
AN1L251C160	AN2L251C160	AN3L251C160	160/5A	0...192A
AN1L251C200	AN2L251C200	AN3L251C200	200/5A	0...240A
AN1L251C250	AN2L251C250	AN3L251C250	250/5A	0...300A
AN1L251C300	AN2L251C300	AN3L251C300	300/5A	0...360A
AN1L251C400	AN2L251C400	AN3L251C400	400/5A	0...480A
AN1L251C500	AN2L251C500	AN3L251C500	500/5A	0...600A
AN1L251C600	AN2L251C600	AN3L251C600	600/5A	0...720A
AN1L251C700	AN2L251C700	AN3L251C700	700/5A	0...840A
AN1L251C750	AN2L251C750	AN3L251C750	750/5A	0...900A
AN1L251C800	AN2L251C800	AN3L251C800	800/5A	0...960A
AN1L251D100	AN2L251D100	AN3L251D100	1000/5A	0...1.2kA
AN1L251D120	AN2L251D120	AN3L251D120	1200/5A	0...1.44kA
AN1L251D125	AN2L251D125	AN3L251D125	1250/5A	0...1.5kA
AN1L251D150	AN2L251D150	AN3L251D150	1500/5A	0...1.8kA
AN1L251D160	AN2L251D160	AN3L251D160	1600/5A	0...1.92kA
AN1L251D200	AN2L251D200	AN3L251D200	2000/5A	0...2.4kA
AN1L251D250	AN2L251D250	AN3L251D250	2500/5A	0...3kA
AN1L251D300	AN2L251D300	AN3L251D300	3000/5A	0...3.6kA
AN1L251D400	AN2L251D400	AN3L251D400	4000/5A	0...4.8kA
AN1L251D500	AN2L251D500	AN3L251D500	5000/5A	0...6kA
AN1L251D600	AN2L251D600	AN3L251D600	6000/5A	0...7.2kA
AN1L251D800	AN2L251D800	AN3L251D800	8000/5A	0...9.6kA
AN1L251E100	AN2L251E100	AN3L251E100	10000/5A	0...12kA

Cat. Nos.

Thermal and moving iron ammeters by CT Delay time 15min

Detection of mean and instantaneous load condition in a plant
Thermal equipment to show the current demand value
Moving-iron equipment to show the instantaneous Current demand (thermal) indication 0...1,2In
Instantaneous current indication 0...In
Max. current demand indication (red pointer)
Red pointer with reset knob (sealable)
Scale lenght 90°
Thermal current accuracy class 3
Instantaneous current accuracy class 1,5

RQ72TE	RQ96TE	Input	Scale
AN2M251A500	AN3M251A500	5/5A	0...5A/0...6A
AN2M251B100	AN3M251B100	10/5A	0...10A/0...12A
AN2M251B150	AN3M251B150	15/5A	0...15A/0...18A
AN2M251B200	AN3M251B200	20/5A	0...20A/0...24A
AN2M251B250	AN3M251B250	25/5A	0...25A/0...30A
AN2M251B300	AN3M251B300	30/5A	0...30A/0...36A
AN2M251B400	AN3M251B400	40/5A	0...40A/0...48A
AN2M251B500	AN3M251B500	50/5A	0...50A/0...60A
AN2M251B600	AN3M251B600	60/5A	0...60A/0...72A
AN2M251B700	AN3M251B700	70/5A	0...70A/0...84A
AN2M251B750	AN3M251B750	75/5A	0...75A/0...90A
AN2M251B800	AN3M251B800	80/5A	0...80A/0...96A
AN2M251C100	AN3M251C100	100/5A	0...100A/0...120A
AN2M251C120	AN3M251C120	120/5A	0...120A/0...144A
AN2M251C125	AN3M251C125	125/5A	0...125A/0...150A
AN2M251C150	AN3M251C150	150/5A	0...150A/0...180A
AN2M251C160	AN3M251C160	160/5A	0...160A/0...192A
AN2M251C200	AN3M251C200	200/5A	0...200A/0...240A
AN2M251C250	AN3M251C250	250/5A	0...250A/0...300A
AN2M251C300	AN3M251C300	300/5A	0...300A/0...360A
AN2M251C400	AN3M251C400	400/5A	0...400A/0...480A
AN2M251C500	AN3M251C500	500/5A	0...500A/0...600A
AN2M251C600	AN3M251C600	600/5A	0...600A/0...720A
AN2M251C700	AN3M251C700	700/5A	0...700A/0...840A
AN2M251C750	AN3M251C750	750/5A	0...750A/0...900A
AN2M251C800	AN3M251C800	800/5A	0...800A/0...960A
AN2M251D100	AN3M251D100	1000/5A	0...1kA/0...1.2kA
AN2M251D120	AN3M251D120	1200/5A	0...1,2kA/0...1,44kA
AN2M251D125	AN3M251D125	1250/5A	0...1,25kA/0...1,5kA
AN2M251D150	AN3M251D150	1500/5A	0...1,5kA/0...1,8kA
AN2M251D160	AN3M251D160	1600/5A	0...1,6kA/0...1,92kA
AN2M251D200	AN3M251D200	2000/5A	0...2kA/0...2,4kA
AN2M251D250	AN3M251D250	2500/5A	0...2,5kA/0...3kA
AN2M251D300	AN3M251D300	3000/5A	0...3kA/0...3,6kA
AN2M251D400	AN3M251D400	4000/5A	0...4kA/0...4,8kA
AN2M251D500	AN3M251D500	5000/5A	0...5kA/0...6kA
AN2M251D600	AN3M251D600	6000/5A	0...6kA/0...7,2kA
AN2M251D800	AN3M251D800	8000/5A	0...8kA/0...9,6kA
AN2M251E100	AN3M251E100	10000/5A	0...10kA/0...12kA

Other executions available

2In overscale: Replace the 7th number (1) of product code with 2

Analog indicators

Flush mounting analog meters for power meters RQ series



Cat. Nos.			Wattmeters indicator	
RQ48M	RQ72M	RQ96M	Input	Scale
AN132A1001	AN232A1001	AN332A1001	0...1mA	
AN133A1001	AN233A1001	AN333A1001	1...0...1mA	Note 1
AN13SA1001	AN23SA1001	AN33SA1001	-...0...1mA	

Analog power meters to be combined with transducer TESI P series
Single-phase or three-phase, active or reactive power measuring
Direct power reading, primary side
Direct voltage connection up to 440V or by external VT/100V or /110V
Current input by external CT /5A or /1A

Cat. Nos.			Varmeter	
RQ48M	RQ72M	RQ96M	Input	Scale
AN132A1001	AN232A1001	AN332A1001	0...1mA	
AN133A1001	AN233A1001	AN333A1001	1...0...1mA	Note 1
AN13SA1001	AN23SA1001	AN33SA1001	-...0...1mA	

Analog power meters to be combined with transducer TESI Q series

Cat. Nos.		TESI P Active power transducer TESI Q Reactive power transducer				
TESI P	TESI Q	Line	Input A	Input V	Output	Setting
TN2P1PA12A	TN2Q1PA12A	1P	5A	100V	...0...1mA	Note 2
TN2P1PA22A	TN2Q1PA22A			110V		
TN2P1PA32A	TN2Q1PA32A			230V		
TN2P1PA42A	TN2Q1PA42A			240V		
TN2P2PA12A	TN2Q2PA12A	3P balanced	5A	100V	1...0...1mA	Note 2
TN2P2PA22A	TN2Q2PA22A			110V		
TN2P2PA52A	TN2Q2PA52A			400V		
TN2P2PA62A	TN2Q2PA62A			415V		
TN2P2PA72A	TN2Q2PA72A			440V		
TN2P3PA12A	TN2Q3PA12A	3P+N balanced	5A	100V	1...0...1mA	Note 2
TN2P3PA22A	TN2Q3PA22A			110V		
TN2P3PA52A	TN2Q3PA52A			400V		
TN2P3PA62A	TN2Q3PA62A			415V		
TN2P3PA72A	TN2Q3PA72A			440V		
TN2P4PA12A	TN2Q4PA12A	3P unbalanced	5A	100V	1...0...1mA	Note 2
TN2P4PA22A	TN2Q4PA22A			110V		
TN2P4PA52A	TN2Q4PA52A			400V		
TN2P4PA62A	TN2Q4PA62A			415V		
TN2P4PA72A	TN2Q4PA72A			440V		
TN2P5PA12A	TN2Q5PA12A	3P+T unbalanced	5A	100V	1...0...1mA	Note 2
TN2P5PA22A	TN2Q5PA22A			110V		
TN2P5PA52A	TN2Q5PA52A			400V		
TN2P5PA62A	TN2Q5PA62A			415V		
TN2P5PA72A	TN2Q5PA72A			440V		

* Input from CT/1A Replace the 9th number (2) of the product code with 1

Analog indicators

Flush mounting analog meters for power factor meters RQ series



Cat. Nos.			Power Factor	
RQ48M	RQ72M	RQ96M	Input	Scale
AN133A1001	AN233A1001	AN333A1001	1...0...1mA	Note

Analog cosφ meters to be combined with transducer TESI PF series
Single-phase or three-phase 3-4wires, balanced load
Direct voltage connection up to 440V or by external VT/100V or /110V
Current input by external CT /5A or /1A

Note In addition to the product code indicate the start and end of scale values ind 0,5...1...0,5 cap

Cat. Nos.		TESI PF Power Factor transducer				
		Line	Input A*	Input V	Output	Setting
TN2C11A12A	1P or 3P+N balanced	5A	5A	100V	1...0...1mA	ind 0,5...1...0,5 cap
TN2C11A22A				110V		
TN2C11A32A				230V		
TN2C11A42A				240V		
TN2C21A12A	3P balanced	5A	5A	100V	1...0...1mA	ind 0,5...1...0,5 cap
TN2C21A22A				110V		
TN2C21A52A				400V		
TN2C21A62A				415V		
TN2C21A72A				440V		

* Input from CT/1A Replace the 9th number (2) of the product code with 1

Note 1 In addition to the product code indicate the start and end of scale values in W, kW, MW, var, kvar, Mvar

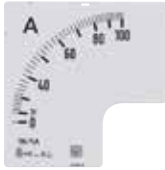
Note 2 In addition to the product code indicate the CT ratio, the ratio of the TV, if established and the power value corresponding to the output 1mA in W or kW or MW (the value must be between 50% and 120% of rated output Pn - single-phase line Pn = V x I and three-phase line Pn = 3 x I x V where V is the rated voltage or the primary of the TV and I to Nominal value of current or the CT primary.

Analog indicators

Interchangeable scale for RQ series



RQ48 - 48x48mm



RQ72 - 72x72mm



RQ96 - 96x96mm






Cat. Nos.			Interchangeable scale for A.C. ammeters by CT	
RQ48E	RQ72E	RQ96E	Input	Scale
SC12D1A500	SC22D1A500	SC32D1A500	5/5A	0...5A
SC1251B100	SC2251B100	SC3251B100	10/5A	0...10A
SC1251B150	SC2251B150	SC3251B150	15/5A	0...15A
SC1251B200	SC2251B200	SC3251B200	20/5A	0...20A
SC1251B250	SC2251B250	SC3251B250	25/5A	0...25A
SC1251B300	SC2251B300	SC3251B300	30/5A	0...30A
SC1251B400	SC2251B400	SC3251B400	40/5A	0...40A
SC1251B500	SC2251B500	SC3251B500	50/5A	0...50A
SC1251B600	SC2251B600	SC3251B600	60/5A	0...60A
SC1251B700	SC2251B700	SC3251B700	70/5A	0...70A
SC1251B750	SC2251B750	SC3251B750	75/5A	0...75A
SC1251B800	SC2251B800	SC3251B800	80/5A	0...80A
SC1251C100	SC2251C100	SC3251C100	100/5A	0...100A
SC1251C120	SC2251C120	SC3251C120	120/5A	0...120A
SC1251C125	SC2251C125	SC3251C125	125/5A	0...125A
SC1251C150	SC2251C150	SC3251C150	150/5A	0...150A
SC1251C160	SC2251C160	SC3251C160	160/5A	0...160A
SC1251C200	SC2251C200	SC3251C200	200/5A	0...200A
SC1251C250	SC2251C250	SC3251C250	250/5A	0...250A
SC1251C300	SC2251C300	SC3251C300	300/5A	0...300A
SC1251C400	SC2251C400	SC3251C400	400/5A	0...400A
SC1251C500	SC2251C500	SC3251C500	500/5A	0...500A
SC1251C600	SC2251C600	SC3251C600	600/5A	0...600A
SC1251C700	SC2251C700	SC3251C700	700/5A	0...700A
SC1251C750	SC2251C750	SC3251C750	750/5A	0...750A
SC1251C800	SC2251C800	SC3251C800	800/5A	0...800A
SC1251D100	SC2251D100	SC3251D100	1000/5A	0...1000A
SC1251D120	SC2251D120	SC3251D120	1200/5A	0...1200A
SC1251D125	SC2251D125	SC3251D125	1250/5A	0...1250A
SC1251D150	SC2251D150	SC3251D150	1500/5A	0...1500A
SC1251D160	SC2251D160	SC3251D160	1600/5A	0...1600A
SC1251D200	SC2251D200	SC3251D200	2000/5A	0...2000A
SC1251D250	SC2251D250	SC3251D250	2500/5A	0...2500A
SC1251D300	SC2251D300	SC3251D300	3000/5A	0...3000A
SC1251D400	SC2251D400	SC3251D400	4000/5A	0...4000A
SC1251D500	SC2251D500	SC3251D500	5000/5A	0...5000A
SC1251D600	SC2251D600	SC3251D600	6000/5A	0...6000A
SC1251D700	SC2251D700	SC3251D700	7000/5A	0...7000A
SC1251D750	SC2251D750	SC3251D750	7500/5A	0...7500A
SC1251D800	SC2251D800	SC3251D800	8000/5A	0...8000A
SC1251E100	SC2251E100	SC3251E100	10000/5A	0...10000A




Cat. Nos.			Interchangeable scale for direct voltage and current indicators connection through transducers/sensors/shunt	
RQ48E	RQ72E	RQ96E	Input	Scale
SC130L0000	SC230L0000	SC330L0000	various in dc	Note 1
SC134M0000	SC234M0000	SC334M0000	4...20mA	
SC135V0000	SC235V0000	SC335V0000	0...4...20mA	

Note 1 In addition to the product code indicate the scale corresponding to the input

Analog indicators

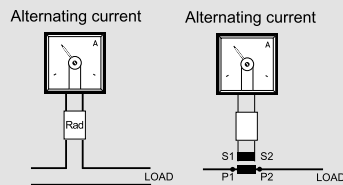
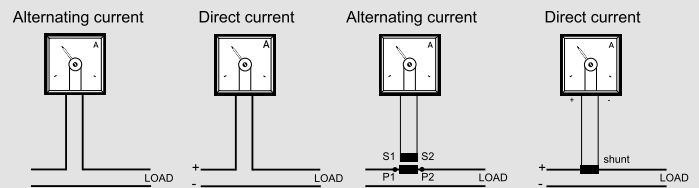
Flush mounting analog meters AQ series

MODEL	AQ48MRAD - AQ72MRAD - AQ96MRAD		AQ48M - AQ72M - AQ96M	
 AQ48 - 48x48mm AQ72 - 72x72mm AQ96 - 96x96mm	 		 	
Type	Ammeters	Voltmeters	Ammeters	Voltmeters
Technical notes	NT790	NT791	NT794	NT795
DISPLAY				
Scale	interchangeable			
Scale length	240°			
Standard scale marking	0...In	0...Un	In...0...In	Un...0...Un
Motor startup marking scale	0...In...2In or 0...In...5In		-	-
INPUT				
Connection	direct or by CT /5A or /1A	direct or by Vt	direct or by external shunt	
Measure	average value measurement, related to r.m.s value, form factor 1,11			
Rating current In (direct)	1...5A	-	2...5A	-
Rating current In (CT or shunt connection)	5A or 1A	-	1A/60mV... 6000A/60mV	-
Rating current In (transducers/sensors)	-	-	1...600mA – 0...5/10/20mA – 4...20mA	-
Rating voltage Un (direct)	-	10...600V	-	10...600V
Rating voltage Un (VT or shunt connection)	-	VT/100V - VT/110V	-	50...500mV
Rating voltage Un (transducers/sensors)	-	-	-	5 – 10V
Continuous overload	1,2In	1,2Un	1,2In	1,2Un
Instantaneous overload	10In/5s	10Un/5s	10In/5s	10Un/5s
Rating frequency fn	50Hz (400Hz in option)			
Working frequency	45...65Hz			
Accuracy (EN/IEC 60051)	class 1,5		class 1	class 1.5
Voltage drop	-		60mV (10mA...5A)	-
Rated burden	≤ 1,1VA	≤ 1mA	-	10mA with Un 60...300mV 1mA (1kΩ/V) with Un 0,5...600V
NOMINAL RANGE				
Voltage	-			
Current	-			
Power factor	-			
Waveform	-			
MEASURING RANGE				
Active power	-			
Reactive power	-			
Power of calibration Pc (Qc)	-			
Cosφ	-			
INSULATION (EN/IEC 61010-1)				
Installation category	III			
Pollution degree	2			
Insulation voltage rating	600V (Phase - Neutral)			
Impulse voltage test (current input towards voltage input and output)	-			
A.C. voltage test (current input towards voltage input and output)	-			
A.C. voltage test (all circuits and earth)	4kV r.m.s. 50Hz/5s			
ENVIRONMENTAL CONDITIONS				
Nominal temperature range	5...40°C			
Limit range for storage and transport	-40...80°C			
Max. power dissipation	-			
Vibration test according to	EN/IEC 60051-1			
Shock test according to	EN/IEC 60051-1			
MECHANICAL FEATURES				
Mounting	flush mounting			
Housing material	self-extinguishing polycarbonate			
Connections	screw terminal / fast-on 6,3 x 0,8mm			
Protection degree (EN/IEC 60529)	IP52 front frame (IP54 in option), IP20 terminals (with protection)			
Weight	250gr (AQ48)-300gr (AQ72)-350gr (AQ96)		140gr (AQ48) - 550gr (AQ72) - 600gr (AQ96)	

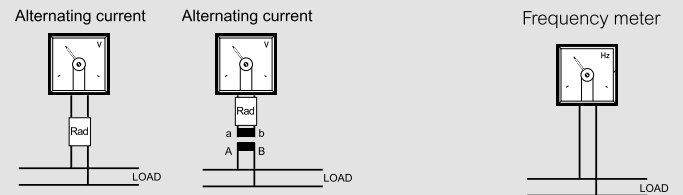
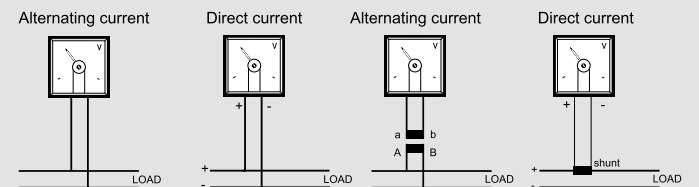
AQ72FI - AQ96FI	AQ48M	AQ48M
		
Frequency meters NT808	Power meters NT701	Cosφ meters NT705
	-	
	240°	
45...55Hz - 55...65Hz - 45...65Hz	upon request	
	-	
direct	direct connection or by VT/CT	
frequency	thermal current	-
	1 - 5A	
	-	
	-	
-	100-110-230-240-400-415-440V (ph-ph)	
	-	
-	In - Un	-
-	2In/5s - 2Un/5s	In and 2Un/5s - Un and 2In/0,5s
-	50Hz (400Hz in option)	
-	45...65Hz	47...63Hz
class 0,5 - class 1 (45...65Hz)	class 1,5	
≤ 4VA	voltage ≤ 1VA - current ≤ 0,5VA	
-	85...115%Un (max. 450V)	
-	0...120%In	
-	cosφ 0,5 inductive	-
-	senf 0,5 inductive	-
-	sinusoidal, distortion factor < 20%	
-	-Ph...0...Ph	-
-	-Qn...0...Qn	-
-	0,6...1,2Pn (Qn)	-
-	-	0,5 inductive 1...0,5 capacitive
	III	
	2	
600V (Phase - Neutral)	300V (Phase - Neutral)	
-	5kV 1,2/50μs 0,5J	
-	2,5kV r.m.s. 50Hz/1min	
	4kV r.m.s. 50Hz/1min	
5...40°C	0...40°C	
-40...80°C	-10...55°C	
-	≤ 3,6W	
EN/IEC 60051-1	EN62052-11	
EN/IEC 60051-1	EN62052-11	
	flush mounting	
	self-extinguishing polycarbonate	
	screw terminal / fast-on 6,3 x 0,8mm	
	IP52 front frame (IP54 in option), IP20 terminals (with protection)	
240gr (AQ72) - 320gr (AQ96)	140gr (AQ48) - 240gr (AQ72) - 320gr (AQ96)	

Wiring diagrams

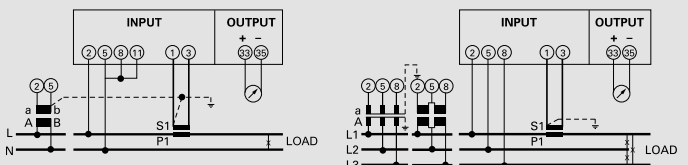
Ammeter



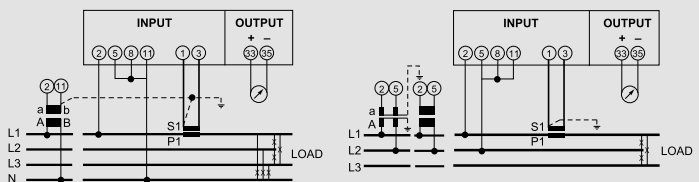
Voltmeter



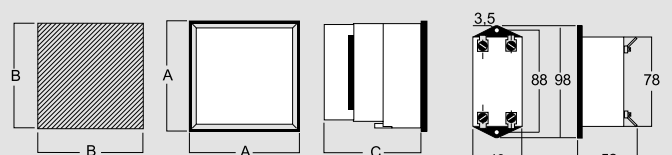
Power meter



Cosφ meter



Dimensions



Dim. (mm)	A	B	C
AQ48...	48x48	45x45	85.5
AQ72...	72x72	68x68	84
AQ96...	96x96	92x92	84

Rectifier accessory for AQ48M/rad

Analog indicators

Flush mounting analog meters for alternating current AQ series with rectifier accessory



AQ48 - 48x48mm



AQ72 - 72x72mm



AQ96 - 96x96mm

Alternating current ammeters by CT

Direct indication of input current or primary current of external CT
 Moving coil equipment, with rectifier accessory
 Input by external CT /5A or /1A
 Version for starting motor 2In or 5In
 Scale length 240°
 Accuracy class 1,5

Cat. Nos.			Input	Scale
AQ48Mrad	AQ72Mrad	AQ96Mrad		
AN51510000	AN61510000	AN71510000	-/5A	*
AN51D1A500	AN61D1A500	AN71D1A500	5/5A	0...5A
AN5151B100	AN6151B100	AN7151B100	10/5A	0...10A
AN5151B150	AN6151B150	AN7151B150	15/5A	0...15A
AN5151B200	AN6151B200	AN7151B200	20/5A	0...20A
AN5151B250	AN6151B250	AN7151B250	25/5A	0...25A
AN5151B300	AN6151B300	AN7151B300	30/5A	0...30A
AN5151B400	AN6151B400	AN7151B400	40/5A	0...40A
AN5151B500	AN6151B500	AN7151B500	50/5A	0...50A
AN5151B600	AN6151B600	AN7151B600	60/5A	0...60A
AN5151B700	AN6151B700	AN7151B700	70/5A	0...70A
AN5151B750	AN6151B750	AN7151B750	75/5A	0...75A
AN5151B800	AN6151B800	AN7151B800	80/5A	0...80A
AN5151C100	AN6151C100	AN7151C100	100/5A	0...100A
AN5151C120	AN6151C120	AN7151C120	120/5A	0...120A
AN5151C125	AN6151C125	AN7151C125	125/5A	0...125A
AN5151C150	AN6151C150	AN7151C150	150/5A	0...150A
AN5151C160	AN6151C160	AN7151C160	160/5A	0...160A
AN5151C200	AN6151C200	AN7151C200	200/5A	0...200A
AN5151C250	AN6151C250	AN7151C250	250/5A	0...250A
AN5151C300	AN6151C300	AN7151C300	300/5A	0...300A
AN5151C400	AN6151C400	AN7151C400	400/5A	0...400A
AN5151C500	AN6151C500	AN7151C500	500/5A	0...500A
AN5151C600	AN6151C600	AN7151C600	600/5A	0...600A
AN5151C700	AN6151C700	AN7151C700	700/5A	0...700A
AN5151C750	AN6151C750	AN7151C750	750/5A	0...750A
AN5151C800	AN6151C800	AN7151C800	800/5A	0...800A
AN5151D100	AN6151D100	AN7151D100	1000/5A	0...1000A
AN5151D120	AN6151D120	AN7151D120	1200/5A	0...1,2kA
AN5151D125	AN6151D125	AN7151D125	1250/5A	0...1,25kA
AN5151D150	AN6151D150	AN7151D150	1500/5A	0...1,5kA
AN5151D160	AN6151D160	AN7151D160	1600/5A	0...1,6kA
AN5151D200	AN6151D200	AN7151D200	2000/5A	0...2kA
AN5151D250	AN6151D250	AN7151D250	2500/5A	0...2,5kA
AN5151D300	AN6151D300	AN7151D300	3000/5A	0...3kA
AN5151D400	AN6151D400	AN7151D400	4000/5A	0...4kA
AN5151D500	AN6151D500	AN7151D500	5000/5A	0...5kA
AN5151D600	AN6151D600	AN7151D600	6000/5A	0...6kA
AN5151D800	AN6151D800	AN7151D800	8000/5A	0...8kA
AN5151E100	AN6151E100	AN7151E100	10000/5A	0...10kA

Other executions available
2In overscale: Replace the 6th number (1) of product code with 2
5In overscale: Replace the 6th number (1) of product code with 5
Input from CT/1A: Replace the 5th number (5 or D) of the product code with 1

Alternating current ammeters direct connection

Moving coil equipment, with rectifier

Cat. Nos.			Input	Scale
AQ48Mrad	AQ72Mrad	AQ96Mrad		
AN51D1A100	AN61D1A100	AN71D1A100		0...1A
AN51D1A250	AN61D1A250	AN71D1A250	direct	0...2.5A
AN51D1A500	AN61D1A500	AN71D1A500		0...5A

Other executions available
2In overscale: Replace the 6th number (1) of product code with 2
5In overscale: Replace the 6th number (1) of product code with 5

Analog indicators

Flush mounting analog meters for alternating voltage AQ series



AQ48 - 48x48mm



AQ72 - 72x72mm



AQ96 - 96x96mm

Cat. Nos.			Alternating voltage voltmeters by VT	
			Direct indication of input voltage or primary voltage of external VT Moving coil equipment with rectifier accessory Input by external VT /100V - /110V Scale length 240° Accuracy class 1,5	
AQ48Mrad	AQ72Mrad	AQ96Mrad	Input	Scale
AN54111111	AN64111111	AN74111111	0...100V	note1
AN54211111	AN64211111	AN74211111	0...120V	note1
AN54311111	AN64311111	AN74311111	0...125V	note1
AN54411111	AN64411111	AN74411111	0...131.58V	note1
AN54511111	AN64511111	AN74511111	0...133.33V	note1
AN54611111	AN64611111	AN74611111	0...136.36V	note1
AN54711111	AN64711111	AN74711111	0...150V	note1
AN54P11111	AN64P11111	AN74P11111	other values	note 2

Note 1 - in addition to the Cat. Nos. indicate the scale and the VT ratio. The ladder should correspond to the product of the input value selected and the TV report

Note 2 - in addition to the product code indicate the scale and the VT ratio

Cat. Nos.			Alternating voltage voltmeters direct connection	
			Moving coil equipment, with rectifier	
AQ48Mrad	AQ72Mrad	AQ96Mrad	Input	Scale
AN54DDB100	AN64DDB100	AN74DDB100		0...10V
AN54DDB150	AN64DDB150	AN74DDB150		0...15V
AN54DDB250	AN64DDB250	AN74DDB250		0...25V
AN54DDB300	AN64DDB300	AN74DDB300		0...30V
AN54DDB400	AN64DDB400	AN74DDB400		0...40V
AN54DDB600	AN64DDB600	AN74DDB600		0...60V
AN54DDC100	AN64DDC100	AN74DDC100	direct	0...100V
AN54DDC150	AN64DDC150	AN74DDC150		0...150V
AN54DDC200	AN64DDC200	AN74DDC200		0...200V
AN54DDC250	AN64DDC250	AN74DDC250		0...250V
AN54DDC300	AN64DDC300	AN74DDC300		0...300V
AN54DDC400	AN64DDC400	AN74DDC400		0...400V
AN54DDC500	AN64DDC500	AN74DDC500		0...500V
AN54DDC600	AN64DDC600	AN74DDC600		0...600V

Analog indicators

Flush mounting analog meters for direct current AQ series



AQ48 - 48x48mm

AQ72 - 72x72mm

AQ96 - 96x96mm

AQ48 - 48x48mm

AQ72 - 72x72mm

AQ96 - 96x96mm

Cat. Nos.

Direct current ammeters by shunt c.d.t. 60mV

Direct indication of input current or primary current of external shunt
 Indication of any quantity, directly proportional to signals coming from transducers or sensors
 Moving coil equipment
 Connection by external shunt 1A/60mV...6000A/60mV
 Connection by transducers or sensors 1...600mA - 0...5/10/20 - 4...20mA
 Lateral zero or central zero version
 Live zero or mechanically suppressed (4...20mA)
 Scale length 240° - Accuracy cl.1,5

AQ48M	AQ72M	AQ96M	Input	Scale
AN560A1002	AN660A1002	AN760A1002	1A-60mV	0...1A
AN560A1502	AN660A1502	AN760A1502	1.5A-60mV	0...1.5A
AN560A2002	AN660A2002	AN760A2002	2A-60mV	0...2A
AN560A2502	AN660A2502	AN760A2502	2.5A-60mV	0...2.5A
AN560A3002	AN660A3002	AN760A3002	3A-60mV	0...3A
AN560A4002	AN660A4002	AN760A4002	4A-60mV	0...4A
AN560A5002	AN660A5002	AN760A5002	5A-60mV	0...5A
AN560A6002	AN660A6002	AN760A6002	6A-60mV	0...6A
AN560A8002	AN660A8002	AN760A8002	8A-60mV	0...8A
AN560B1002	AN660B1002	AN760B1002	10A-60mV	0...10A
AN560B1502	AN660B1502	AN760B1502	15A-60mV	0...15A
AN560B2002	AN660B2002	AN760B2002	20A-60mV	0...20A
AN560B2502	AN660B2502	AN760B2502	25A-60mV	0...25A
AN560B3002	AN660B3002	AN760B3002	30A-60mV	0...30A
AN560B4002	AN660B4002	AN760B4002	40A-60mV	0...40A
AN560B5002	AN660B5002	AN760B5002	50A-60mV	0...50A
AN560B6002	AN660B6002	AN760B6002	60A-60mV	0...60A
AN560B8002	AN660B8002	AN760B8002	80A-60mV	0...80A
AN560C1002	AN660C1002	AN760C1002	100A-60mV	0...100A
AN560C1202	AN660C1202	AN760C1202	120A-60mV	0...120A
AN560C1502	AN660C1502	AN760C1502	150A-60mV	0...150A
AN560C2002	AN660C2002	AN760C2002	200A-60mV	0...200A
AN560C2502	AN660C2502	AN760C2502	250A-60mV	0...250A
AN560C3002	AN660C3002	AN760C3002	300A-60mV	0...300A
AN560C4002	AN660C4002	AN760C4002	400A-60mV	0...400A
AN560C5002	AN660C5002	AN760C5002	500A-60mV	0...500A
AN560C6002	AN660C6002	AN760C6002	600A-60mV	0...600A
AN560C8002	AN660C8002	AN760C8002	800A-60mV	0...800A
AN560D1002	AN660D1002	AN760D1002	1kA-60mV	0...1000A
AN560D1202	AN660D1202	AN760D1202	1.2kA-60mV	0...1,2kA
AN560D1502	AN660D1502	AN760D1502	1.5kA-60mV	0...1,5kA
AN560D2002	AN660D2002	AN760D2002	2kA-60mV	0...2kA
AN560D2502	AN660D2502	AN760D2502	2.5kA-60mV	0...2,5kA
AN560D3002	AN660D3002	AN760D3002	3kA-60mV	0...3kA
AN560D4002	AN660D4002	AN760D4002	4kA-60mV	0...4kA
AN560D5002	AN660D5002	AN760D5002	5kA-60mV	0...5kA
AN560D6002	AN660D6002	AN760D6002	6kA-60mV	0...6kA
AN56SB6001	AN66SB6001	AN76SB6001	-...0...60mV	Note1

Cat. Nos.

Direct current ammeters direct connection

AQ48M	AQ72M	AQ96M	Input	Scale
48x48 mm	72x72 mm	96x96 mm		
AN538A2002	AN638A2002	AN738A2002		0...2A
AN538A2502	AN638A2502	AN738A2502		0...2.5A
AN539A5002	AN638A5002	AN738A5002		0...5A
AN539A2002	AN639A2002	AN739A2002	direct	2...0...2A
AN539A2502	AN639A2502	AN739A2502		2.5...0...2.5A
AN539A5002	AN639A5002	AN739A5002		5...0...5A

Cat. Nos.

Direct current indicators by transducers/sensors

AQ48M	AQ72M	AQ96M	Input	Scale
AN532A1001	AN632A1001	AN732A1001	0...1mA	Note 2
AN532A5001	AN632A5001	AN732A5001	0...5mA	Note 2
AN532B1001	AN632B1001	AN732B1001	0...10mA	Note 2
AN532B2001	AN632B2001	AN732B2001	0...20mA	Note 2
AN533A1001	AN633A1001	AN733A1001	1...0...1mA	Note 2
AN533A5001	AN633A5001	AN733A5001	5...0...5mA	Note 2
AN533B1001	AN633B1001	AN733B1001	10...0...10mA	Note 2
AN533B2001	AN633B2001	AN733B2001	20...0...20mA	Note 2
AN534M0001	AN634M0001	AN734M0001	4...20mA	Note 2
AN535V0001	AN635V0001	AN735V0001	0...4...20mA	Note 2
AN53SA1001	AN63SA1001	AN73SA1001	-...0...1mA	Note 3

Note 1 In addition to the product code indicate the scale to zero shifted eg 20 ... 0 ... 100A 100A = 60mV

Note 2 In addition to the product code indicate the scale corresponding to the input

Note 3 In addition to the product code indicate the scale moved to zero (ie 20-0-100kW 100kW = 1mA)

Other executions available

Input/central zero scale Replace the 5th number (0) of the product code with 1

Analog indicators

Flush mounting analog meters for direct voltage AQ series



AQ48 - 48x48mm



AQ72 - 72x72mm



AQ96 - 96x96mm

Analog indicators

Flush mounting analog meters for frequency AQ series



AQ72 - 72x72mm



AQ96 - 96x96mm

Cat. Nos.			Direct voltage voltmeters direct connection	
			Direct indication of input voltage Indication of any quantity, directly proportional to signals coming from transducers, sensors or shunt Moving coil equipment Direct connection 10...600V Connection by shunt 50...500mV Connection by transducers or sensors 5 – 10V Lateral zero or central zero version Scale length 240° - Accuracy cl.1,5	
AQ48M	AQ72M	AQ96M	Input	Scale
AN564B1002	AN664B1002	AN764B1002		0...10V
AN564B1502	AN664B1502	AN764B1502		0...15V
AN564B2502	AN664B2502	AN764B2502		0...25V
AN564B3002	AN664B3002	AN764B3002		0...30V
AN564B4002	AN664B4002	AN764B4002		0...40V
AN564B6002	AN664B6002	AN764B6002		0...60V
AN564B8002	AN664B8002	AN764B8002		0...80V
AN564C1002	AN664C1002	AN764C1002	direct	0...100V
AN564C1502	AN664C1502	AN764C1502		0...150V
AN564C2002	AN664C2002	AN764C2002		0...200V
AN564C2502	AN664C2502	AN764C2502		0...250V
AN564C3002	AN664C3002	AN764C3002		0...300V
AN564C4002	AN664C4002	AN764C4002		0...400V
AN564C5002	AN664C5002	AN764C5002		0...500V
AN564C6002	AN664C6002	AN764C6002		0...600V

Other executions available

Input/central zero scale Replace the 5th number (4) of the product code with 5

Cat. Nos.			Direct voltage indicators by transducers/sensors/shunt	
AQ48M	AQ72M	AQ96M	Input	Scale
AN562B5001	AN662B5001	AN762B5001	0...50mV	
AN562B6001	AN662B6001	AN762B6001	0...60mV	
AN562C1001	AN662C1001	AN762C1001	0...100mV	
AN562C1201	AN662C1201	AN762C1201	0...120mV	
AN562C1251	AN662C1251	AN762C1251	0...125mV	
AN562C1501	AN662C1501	AN762C1501	0...150mV	
AN563B5001	AN663B5001	AN763B5001	50...0...50mV	
AN563B6001	AN663B6001	AN763B6001	60...0...60mV	Note 1
AN563C1001	AN663C1001	AN763C1001	100...0...100mV	
AN563C1201	AN663C1201	AN763C1201	120...0...120mV	
AN563C1501	AN663C1501	AN763C1501	150...0...150mV	
AN564A5001	AN664A5001	AN764A5001	0...5V	
AN564B1001	AN664B1001	AN764B1001	0...10V	
AN565A5001	AN665A5001	AN765A5001	5...0...5V	
AN565B1001	AN665B1001	AN765B1001	10...0...10V	

Note 1 In addition to the product code indicate the scale corresponding to the input.

Cat. Nos.		Frequency meters direct or by VT	
		Direct indication of input frequency Direct connection Voltage 100...440V Moving coil equipment Scale length 240° Accuracy cl.0,5 (cl.1 45...65Hz)	
		Input	Scale
AQ72FI	AQ96FI	100V	
AN6711	AN7711	110-115V	
AN6712	AN7712	230-240V	45...55Hz
AN6713	AN7713	400-415V	
AN6714	AN7714	440V	
AN6715	AN7715		
AN6721	AN7721	100V	
AN6722	AN7722	110-115V	
AN6723	AN7723	230-240V	45...65Hz
AN6724	AN7724	400-415V	
AN6725	AN7725	440V	
AN6731	AN7731	100V	
AN6732	AN7732	110-115V	
AN6733	AN7733	230-240V	55...65Hz
AN6734	AN7734	400-415V	
AN6735	AN7735	440V	

Analog indicators

Flush mounting analog meters for power meters AQ series



Analog indicators

Flush mounting analog meters for power factor meters AQ series



Cat. Nos.			Wattmeters	
			Analog power meters to be combined with transducer TESI P series	
AQ48M	AQ72M	AQ96M	Input	Scale
AN532A1001	AN632A1001	AN732A1001	0...1mA	
AN533A1001	AN633A1001	AN733A1001	1...0...1mA	note1
AN53SA1001	AN63SA1001	AN73SA1001	-...0...1mA	

Cat. Nos.			Power Factor indicators	
			Analog cosφ meters to be combined with transducer TESI PF series	
			Single-phase or three-phase 3-4wires, balanced load	
			Direct voltage connection up to 440V or by external VT/100V or /110V	
			Current input by external CT /5A or /1A	
AQ48M	AQ72M	AQ96M	Input	Scale
AN533A1001	AN633A1001	AN733A1001	0...1mA	note

Cat. Nos.			Varmeter	
			Analog power meters to be combined with transducer TESI Q series	
AQ48M	AQ72M	AQ96M	Input	Scale
AN532A1001	AN632A1001	AN732A1001	0...1mA	
AN533A1001	AN633A1001	AN733A1001	1...0...1mA	note1
AN53SA1001	AN63SA1001	AN73SA1001	-...0...1mA	

Note: In addition to the product code indicate the start and end of scale values ind 0,5...1...0,5 cap

Cat. Nos.		TESI P Active power transducer TESI Q Reactive power transducer				
TESI P	TESI Q	Line	Input A*	Input V	Output	Setting
TN2P1PA12A	TN2Q1PA12A	1P	5A	100V	...0...1mA	Note 2
TN2P1PA22A	TN2Q1PA22A			110V		
TN2P1PA32A	TN2Q1PA32A			230V		
TN2P1PA42A	TN2Q1PA42A			240V		
TN2P2PA12A	TN2Q2PA12A	3P balanced	5A	100V	1...0...1mA	Note 2
TN2P2PA22A	TN2Q2PA22A			110V		
TN2P2PA52A	TN2Q2PA52A			400V		
TN2P2PA62A	TN2Q2PA62A			415V		
TN2P2PA72A	TN2Q2PA72A	440V				
TN2P3PA12A	TN2Q3PA12A	3P+N balanced	5A	100V	1...0...1mA	Note 2
TN2P3PA22A	TN2Q3PA22A			110V		
TN2P3PA52A	TN2Q3PA52A			400V		
TN2P3PA62A	TN2Q3PA62A			415V		
TN2P3PA72A	TN2Q3PA72A	440V				
TN2P4PA12A	TN2Q4PA12A	3P unbalanced	5A	100V	1...0...1mA	Note 2
TN2P4PA22A	TN2Q4PA22A			110V		
TN2P4PA52A	TN2Q4PA52A			400V		
TN2P4PA62A	TN2Q4PA62A			415V		
TN2P4PA72A	TN2Q4PA72A	440V				
TN2P5PA12A	TN2Q5PA12A	3P+T unbalanced	5A	100V	1...0...1mA	Note 2
TN2P5PA22A	TN2Q5PA22A			110V		
TN2P5PA52A	TN2Q5PA52A			400V		
TN2P5PA62A	TN2Q5PA62A			415V		
TN2P5PA72A	TN2Q5PA72A	440V				

* Input from CT/1A Replace the 9th number (2) of the product code with 1

Cat. Nos.		TESI PF Power Factor transducer				
Line	Input A*	Input V	Output	Setting		
1P or 3P+N balanced	5A	100V	1...0...1mA	ind	0,5...1...0,5 cap	
		110V				
		230V				
		240V				
3P balanced	5A	100V	1...0...1mA	ind	0,5...1...0,5 cap	
		110V				
		400V				
		415V				
TN2C21A72A		440V				

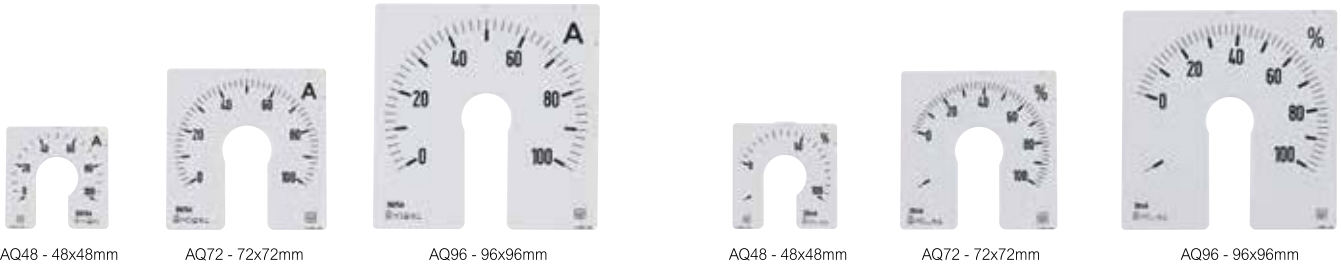
* Input from CT/1A Replace the 9th number (2) of the product code with 1

Note 1 In addition to the product code indicate the start and end of scale values in W, kW, MW, var, kvar, Mvar

Note 2 In addition to the product code indicate the CT ratio, the ratio of the TV, if established and the power value corresponding to the output 1mA in W or kW or MW (the value must be between 50% and 120% of rated output Pn - single-phase line Pn = V x I and three-phase line Pn = 3 x I x V where V is the rated voltage or the primary of the TV and I to Nominal value of current or the CT primary.

Analog indicators

Interchangeable scale for AQ series



Cat. Nos.			Interchangeable scale for A.C. ammeters by CT	
AQ48Mrad	AQ72Mrad	AQ96Mrad	Input	Scale
SC51D1A500	SC71D1A500	SC71D1A500	5/5A	0...5A
SC5151B100	SC6151B100	SC7151B100	10/5A	0...10A
SC5151B150	SC6151B150	SC7151B150	15/5A	0...15A
SC5151B200	SC6151B200	SC7151B200	20/5A	0...20A
SC5151B250	SC6151B250	SC7151B250	25/5A	0...25A
SC5151B300	SC6151B300	SC7151B300	30/5A	0...30A
SC5151B400	SC6151B400	SC7151B400	40/5A	0...40A
SC5151B500	SC6151B500	SC7151B500	50/5A	0...50A
SC5151B600	SC6151B600	SC7151B600	60/5A	0...60A
SC5151B700	SC6151B700	SC7151B700	70/5A	0...70A
SC5151B750	SC6151B750	SC7151B750	75/5A	0...75A
SC5151B800	SC6151B800	SC7151B800	80/5A	0...80A
SC5151C100	SC6151C100	SC7151C100	100/5A	0...100A
SC5151C120	SC6151C120	SC7151C120	120/5A	0...120A
SC5151C125	SC6151C125	SC7151C125	125/5A	0...125A
SC5151C150	SC6151C150	SC7151C150	150/5A	0...150A
SC5151C160	SC6151C160	SC7151C160	160/5A	0...160A
SC5151C200	SC6151C200	SC7151C200	200/5A	0...200A
SC5151C250	SC6151C250	SC7151C250	250/5A	0...250A
SC5151C300	SC6151C300	SC7151C300	300/5A	0...300A
SC5151C400	SC6151C400	SC7151C400	400/5A	0...400A
SC5151C500	SC6151C500	SC7151C500	500/5A	0...500A
SC5151C600	SC6151C600	SC7151C600	600/5A	0...600A
SC5151C700	SC6151C700	SC7151C700	700/5A	0...700A
SC5151C750	SC6151C750	SC7151C750	750/5A	0...750A
SC5151C800	SC6151C800	SC7151C800	800/5A	0...800A
SC5151D100	SC6151D100	SC7151D100	1000/5A	0...1000A
SC5151D120	SC6151D120	SC7151D120	1200/5A	0...1200A
SC5151D125	SC6151D125	SC7151D125	1250/5A	0...1250A
SC5151D150	SC6151D150	SC7151D150	1500/5A	0...1500A
SC5151D160	SC6151D160	SC7151D160	1600/5A	0...1600A
SC5151D200	SC6151D200	SC7151D200	2000/5A	0...2000A
SC5151D250	SC6151D250	SC7151D250	2500/5A	0...2500A
SC5151D300	SC6151D300	SC7151D300	3000/5A	0...3000A
SC5151D400	SC6151D400	SC7151D400	4000/5A	0...4000A
SC5151D500	SC6151D500	SC7151D500	5000/5A	0...5000A
SC5151D600	SC6151D600	SC7151D600	6000/5A	0...6000A
SC5151D700	SC6151D700	SC7151D700	7000/5A	0...7000A
SC5151D750	SC6151D750	SC7151D750	7500/5A	0...7500A
SC5151D800	SC6151D800	SC7151D800	8000/5A	0...8000A
SC5151E100	SC6151E100	SC7151E100	10000/5A	0...10000A

Cat. Nos.			Interchangeable scale for direct voltage and current indicators connection through transducers/sensors/shunt	
AQ48M	AQ72M	AQ96M	Input	Scale
SC530L0000	SC630L0000	SC730L0000	various in dc	Note 1
SC534M0000	SC634M0000	SC734M0000	4...20mA	
SC535V0000	SC635V0000	SC735V0000	0...4...20mA	

Note 1 In addition to the product code indicate the scale corresponding to the input

Other executions available

2In overscale: Replace the 6th number (1) of product code with 2

5In overscale: Replace the 6th number (1) of product code with 5

Input from CT/1A: Replace the 5th number (5 or D) of the product code with 1

Analog indicators

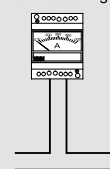
Modular analog meters D4 series

	ALTERNATING CURRENT (AC)		DIRECT CURRENT (DC)	
Type	Ammeters	Voltmeters	Ammeters	Voltmeters
Technical notes	NT771	NT772	NT774	NT775
DISPLAY				
Scale	interchangeable			
Scale length	90°			
Standard scale marking	0...I _n	0...U _n	-I _n ...0...I _n	-U _n ...0...U _n
Motor startup marking scale	0...I _n ...2I _n or 0...I _n ...5I _n	-	-	-
INPUT				
Connection	direct or by external CT	direct or by external VT	direct or by external shunt	
Measure	true RMS value			
Rating current I _n (direct)	1...60A	-	1mA...40A	-
Rating current I _n (shunt connection)	5A or 1A	-	1A/60mV 1000A/60mV	-
Rating current I _n (transducers/sensors)	-	-	1...600mA 0...5/10/20mA 4...20mA	-
Rating voltage U _n (direct)	-	10...600V	-	50mV... 600V
Rating voltage U _n (shunt connection)	-	VT/100V - VT/110V	-	-
Rating voltage U _n (transducers/sensors)	-	-	-	5 – 10V
Continuous overload	1,2I _n	1,2U _n	1,2I _n	1,2U _n
Instantaneous overload	10I _n /5s	10U _n /5s	10I _n /5s	10U _n /5s
Voltage drop (I _n =10mA...40A)	-	-	≤ 60mV	-
Rating frequency f _n	50Hz (400Hz in option)		-	-
Working frequency	45...65Hz		-	-
Accuracy (EN/IEC 60051)	class 1,5	class 1	class 1,5	
Rated burden	≤ 1,1VA	≤ 3,5VA (500V) - ≤ 3VA (300V)	-	10mA with U _n 60...300mV 1mA (1kΩ/V) with U _n 0,5...600V
INSULATION (EN/IEC 61010-1)				
Installation category	III			
Pollution degree	2			
Insulation voltage rating	600V (Phase - Neutral)			
A.C. voltage test (all circuits and earth)	4kV r.m.s. 50Hz/5s			
ENVIRONMENTAL CONDITIONS				
Nominal temperature range	5...40°C			
Limit range for storage and transport	-40...80°C			
Vibration and shock test according to	EN/IEC 60051-1			
MECHANICAL FEATURES				
Housing	4 module DIN 43880 (35mm)			
Housing material	self-extinguishing polycarbonate			
Connections	screw terminal (cable 4÷10mm ²)			
Protection degree	IP50 front frame, IP20 terminals			
Weight	130 grams		130 grams	150 grams

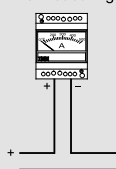
Wiring diagrams

Ammeter

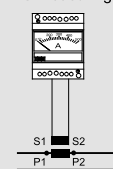
AC measuring



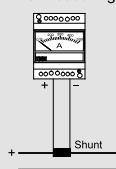
DC measuring



AC measuring

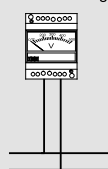


DC measuring

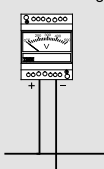


Voltmeter

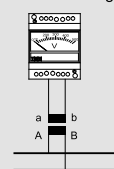
AC measuring



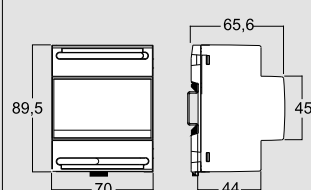
DC measuring



AC measuring



Dimensions



Analog indicators

Modular analog meters for alternating current and voltage D4E series



Cat. Nos.	Alternating current ammeters by CT	
	Direct indication of input current or primary current of external CT Moving iron equipment Input by external CT /5A or /1A Version for starting motor 2In Scale length 90° Accuracy class 1,5	
	Input	Scale
AN92510000	-/5A	*
AN92D1A500	5/5A	0...5A
AN9251B100	10/5A	0...10A
AN9251B150	15/5A	0...15A
AN9251B200	20/5A	0...20A
AN9251B250	25/5A	0...25A
AN9251B300	30/5A	0...30A
AN9251B400	40/5A	0...40A
AN9251B500	50/5A	0...50A
AN9251B600	60/5A	0...60A
AN9251B700	70/5A	0...70A
AN9251B750	75/5A	0...75A
AN9251B800	80/5A	0...80A
AN9251C100	100/5A	0...100A
AN9251C120	120/5A	0...120A
AN9251C125	125/5A	0...125A
AN9251C150	150/5A	0...150A
AN9251C160	160/5A	0...160A
AN9251C200	200/5A	0...200A
AN9251C250	250/5A	0...250A
AN9251C300	300/5A	0...300A
AN9251C400	400/5A	0...400A
AN9251C500	500/5A	0...500A
AN9251C600	600/5A	0...600A
AN9251C700	700/5A	0...700A
AN9251C750	750/5A	0...750A
AN9251C800	800/5A	0...800A
AN9251D100	1000/5A	0...1000A
AN9251D120	1200/5A	0...1,2kA
AN9251D125	1250/5A	0...1,25kA
AN9251D150	1500/5A	0...1,5kA
AN9251D160	1600/5A	0...1,6kA
AN9251D200	2000/5A	0...2kA
AN9251D250	2500/5A	0...2,5kA
AN9251D300	3000/5A	0...3kA
AN9251D400	4000/5A	0...4kA
AN9251D500	5000/5A	0...5kA
AN9251D600	6000/5A	0...6kA
AN9251D800	8000/5A	0...8kA
AN9251E100	10000/5A	0...10kA

Other executions available
2In overscale: Replace the 6th number (1) of product code with 2
Input from CT/1A: Replace the 5th number (5 or D) of the product code with 1

Cat. Nos.	Alternating current ammeters direct connection	
	Input	Scale
AN92D1A100		0...1A
AN92D1A150		0...1.5A
AN92D1A200		0...2A
AN92D1A250		0...2.5A
AN92D1A300		0...3A
AN92D1A400		0...4A
AN92D1A500		0...5A
AN92D1A600		0...6A
AN92D1B100	direct	0...10A
AN92D1B150		0...15A
AN92D1B200		0...20A
AN92D1B250		0...25A
AN92D1B300		0...30A
AN92D1B400		0...40A
AN92D1B500		0...50A
AN92D1B600		0...60A

Other executions available
2In overscale Replace the 6th number (1) of product code with 2

Cat. Nos.	Alternating voltage voltmeters by VT	
	Direct indication of input voltage or primary voltage of external CT Moving iron equipment Input by external VT /100V - /110V Version for starting motor 2In Scale length 90° Accuracy class 1,5	
	Input	Scale
AN95111111	0...100V	
AN95211111	0...120V	
AN95311111	0...125V	
AN95411111	0...131.58V	note 1
AN95511111	0...133.33V	
AN95611111	0...136.36V	
AN95711111	0...150V	
AN95P11111	other values	note 2

Note 1 - in addition to the Cat. Nos. indicate the scale and the VT ratio. The ladder should correspond to the product of the input value selected and the TV report
Note 2 - in addition to the product code indicate the scale and the VT ratio

Cat. Nos.	Alternating current ammeters direct connection	
	Input	Scale
AN95DDB400		0...40V
AN95DDB600		0...60V
AN95DDC100		0...100V
AN95DDC150		0...150V
AN95DDC200		0...200V
AN95DDC250	direct	0...250V
AN95DDC300		0...300V
AN95DDC400		0...400V
AN95DDC500		0...500V
AN95DDC600		0...600V

Analog indicators

Modular analog meters for direct current and voltage D4M series



Cat. Nos.	Direct current ammeters by shunt c.d.t. 60mV	
	Direct indication of input current or primary current of external shunt Indication of any quantity, directly proportional to signals coming from transducers or sensors Moving coil equipment - Direct connection 1mA...40A Connection by external shunt 1A/60mV...1000A/60mV Connection by transducers or sensors 1...600mA – 0...5/10/20 – 4...20mA Lateral zero or central zero version Live zero or mechanically suppressed (4...20mA) Scale length 90° - Accuracy cl.1,5	
	Input	Scale
AN960A1002	1A-60mV	0...1A
AN960A1502	1.5A-60mV	0...1.5A
AN960A2002	2A-60mV	0...2A
AN960A2502	2.5A-60mV	0...2.5A
AN960A3002	3A-60mV	0...3A
AN960A4002	4A-60mV	0...4A
AN960A5002	5A-60mV	0...5A
AN960A6002	6A-60mV	0...6A
AN960A8002	8A-60mV	0...8A
AN960B1002	10A-60mV	0...10A
AN960B1502	15A-60mV	0...15A
AN960B2002	20A-60mV	0...20A
AN960B2502	25A-60mV	0...25A
AN960B3002	30A-60mV	0...30A
AN960B4002	40A-60mV	0...40A
AN960B5002	50A-60mV	0...50A
AN960B6002	60A-60mV	0...60A
AN960B8002	80A-60mV	0...80A
AN960C1002	100A-60mV	0...100A
AN960C1202	120A-60mV	0...120A
AN960C1502	150A-60mV	0...150A
AN960C2002	200A-60mV	0...200A
AN960C2502	250A-60mV	0...250A
AN960C3002	300A-60mV	0...300A
AN960C4002	400A-60mV	0...400A
AN960C5002	500A-60mV	0...500A
AN960C6002	600A-60mV	0...600A
AN960C8002	800A-60mV	0...800A
AN960D1002	1kA-60mV	0...1000A
AN96SB6001	...0...60mV	Note1

Other executions available
Input/central zero scale: Replace the 5th number (0) of the product code with 1

Cat. Nos.	Direct current ammeters direct connection	
	Input	Scale
AN938A1002		0...1A
AN938A2502		0...2.5A
AN938A5002		0...5A
AN938B1002		0...10A
AN938B1502	direct	0...15A
AN938B2002		0...20A
AN938B2502		0...25A
AN938B3002		0...30A
AN938B4002		0...40A

Other executions available
Input/ central zero scale: Replace the 5th number (8) of the product code with 9

Cat. Nos.	Direct current indicators by transducers/sensors	
	Input	Scale
AN932A1001	0...1mA	
AN932A5001	0...5mA	
AN932B1001	0...10mA	
AN932B2001	0...20mA	
AN933A1001	1...0...1mA	
AN933A5001	5...0...5mA	Note 1
AN933B1001	10...0...10mA	
AN933B2001	20...0...20mA	
AN934M0001	4...20mA	
AN935V0001	0...4...20mA	

Cat. Nos.	Direct voltage voltmeters direct connection	
	Direct indication of input voltage Indication of any quantity, directly proportional to signals coming from transducers, sensors or shunt Moving coil equipment Direct connection 10...600V Connection by transducers or sensors 5 – 10V Lateral zero or central zero version Scale length 90° - Accuracy cl.1,5	
	Input	Scale
AN964B1002		0...10V
AN964B1502		0...15V
AN964B2502		0...25V
AN964B3002		0...30V
AN964B4002		0...40V
AN964B6002		0...60V
AN964B8002		0...80V
AN964C1002	direct	0...100V
AN964C1502		0...150V
AN964C2002		0...200V
AN964C2502		0...250V
AN964C3002		0...300V
AN964C4002		0...400V
AN964C5002		0...500V
AN964C6002		0...600V

Other executions available
Input/central zero scale Replace the 5th number (4) of the product code with 5

Cat. Nos.	Direct voltage indicators by transducers/sensors/shunt	
	Input	Scale
AN962B5001	0...50mV	
AN962B6001	0...60mV	
AN962C1001	0...100mV	
AN962C1501	0...150mV	
AN963B5001	50...0...50mV	
AN963B6001	60...0...60mV	
AN963C1001	100...0...100mV	Note 1
AN963C1501	150...0...150mV	
AN964A5001	0...5V	
AN964B1001	0...10V	
AN965A5001	5...0...5V	
AN965B1001	10...0...10V	

Note 1 In addition to the product code indicate the scale corresponding to the input.

Analog indicators

Interchangeable scale for modular analog meters D4E series



Analog indicators

Interchangeable scale for modular analog meters D4M series



Cat. Nos.	Input	Scale
SC92D1A500	5/5A	0...5A
SC9251B100	10/5A	0...10A
SC9251B150	15/5A	0...15A
SC9251B200	20/5A	0...20A
SC9251B250	25/5A	0...25A
SC9251B300	30/5A	0...30A
SC9251B400	40/5A	0...40A
SC9251B500	50/5A	0...50A
SC9251B600	60/5A	0...60A
SC9251B700	70/5A	0...70A
SC9251B750	75/5A	0...75A
SC9251B800	80/5A	0...80A
SC9251C100	100/5A	0...100A
SC9251C120	120/5A	0...120A
SC9251C125	125/5A	0...125A
SC9251C150	150/5A	0...150A
SC9251C160	160/5A	0...160A
SC9251C200	200/5A	0...200A
SC9251C250	250/5A	0...250A
SC9251C300	300/5A	0...300A
SC9251C400	400/5A	0...400A
SC9251C500	500/5A	0...500A
SC9251C600	600/5A	0...600A
SC9251C700	700/5A	0...700A
SC9251C750	750/5A	0...750A
SC9251C800	800/5A	0...800A
SC9251D100	1000/5A	0...1000A
SC9251D120	1200/5A	0...1200A
SC9251D125	1250/5A	0...1250A
SC9251D150	1500/5A	0...1500A
SC9251D160	1600/5A	0...1600A
SC9251D200	2000/5A	0...2000A
SC9251D250	2500/5A	0...2500A
SC9251D300	3000/5A	0...3000A
SC9251D400	4000/5A	0...4000A
SC9251D500	5000/5A	0...5000A
SC9251D600	6000/5A	0...6000A
SC9251D700	7000/5A	0...7000A
SC9251D750	7500/5A	0...7500A
SC9251D800	8000/5A	0...8000A
SC9251E100	10000/5A	0...10000A

Other executions available

2In overscale: Replace the 6th number (1) of product code with 2

Input from CT/1A: Replace the 5th number (5 or D) of the product code with 1

Cat. Nos.	Input	Scale
SC930L0000	various in dc	
SC934M0000	4...20mA	Note 1
SC935V0000	0...4...20mA	

Note 1 In addition to the product code indicate the scale corresponding to the input

Analog indicators

Flush mounting analog meters with alarms for alternating current and voltage AL96 series



AL96AC - 96x96mm



AL96AC - 96x96mm

Cat. Nos.

Alternating current ammeter by CT

Measurement with display related to rms value
 Input from CT/1A or /5A
 Indication of primary current of external CT
 2 programmables alarms, programmable thresholds 41 led bar on 90° arc
 Accuracy cl.1,5

Cat. Nos.	Input	Scale	Alarm type	Auxiliary
ANT151A50033	5/5A	0...5A		
ANT151B10033	10/5A	0...10A		
ANT151B15033	15/5A	0...15A		
ANT151B20033	20/5A	0...20A		
ANT151B25033	25/5A	0...25A		
ANT151B30033	30/5A	0...30A		
ANT151B40033	40/5A	0...40A		
ANT151B50033	50/5A	0...50A		
ANT151B60033	60/5A	0...60A		
ANT151B70033	70/5A	0...70A		
ANT151B75033	75/5A	0...75A		
ANT151B80033	80/5A	0...80A		
ANT151C10033	100/5A	0...100A		
ANT151C12033	120/5A	0...120A		
ANT151C12533	125/5A	0...125A		
ANT151C15033	150/5A	0...150A		
ANT151C16033	160/5A	0...160A		
ANT151C20033	200/5A	0...200A		
ANT151C25033	250/5A	0...250A		
ANT151C30033	300/5A	0...300A	Min and Max	230Vac
ANT151C40033	400/5A	0...400A		
ANT151C50033	500/5A	0...500A		
ANT151C60033	600/5A	0...600A		
ANT151C70033	700/5A	0...700A		
ANT151C75033	750/5A	0...750A		
ANT151C80033	800/5A	0...800A		
ANT151D10033	1000/5A	0...1000A		
ANT151D12033	1200/5A	0...1,2kA		
ANT151D12533	1250/5A	0...1,25kA		
ANT151D15033	1500/5A	0...1,5kA		
ANT151D16033	1600/5A	0...1,6kA		
ANT151D20033	2000/5A	0...2kA		
ANT151D25033	2500/5A	0...2,5kA		
ANT151D30033	3000/5A	0...3kA		
ANT151D40033	4000/5A	0...4kA		
ANT151D50033	5000/5A	0...5kA		
ANT151D60033	6000/5A	0...6kA		
ANT151D80033	8000/5A	0...8kA		
ANT151E10033	10000/5A	0...10kA		

Cat. Nos.

Alternating voltage voltmeter direct or by VT

Measurement with display related to rms value
 Direct input up to 500V or by VT/100V
 Indication of primary current of external VT
 2 programmables alarms, programmable thresholds 41 led bar on 90° arc
 Accuracy cl.1,5

Cat. Nos.	Input	Scale	Alarm type	Auxiliary
ANT4DDC30032	Direct	0...300V		115Vac
ANT4DDC30033	Direct	0...300V		230Vac
ANT4DDC50032	Direct	0...500V		115Vac
ANT4DDC50033	Direct	0...500V	Min and Max	230Vac
ANT4PP111132	from VT	Note 1		115Vac
ANT4PP111133	from VT	Note 1		230Vac

Other executions available

2 max alarms: Replace the 11th number of product code with 4
2 min alarms: Replace the 11th number of product code with 6

Analog indicators

Flush mounting analog meters with alarms for direct current and voltage AL96 series



AL96DC - 96x96mm



AL96DC - 96x96mm

Cat. Nos.	Direct current ammeter unidirectional by transducers/field sensors			
	Direct current measurement Display any proportional process variable Input for standard signal 1 - 5 - 10 - 20 - 4...20mA 2 programmables alarms, programmable thresholds 41 led bar on 90° arc Accuracy cl.1,5			
	Input	Scale	Alarm type	Auxiliary
ANT31132	0...1mA			115Vac
ANT31133	0...1mA			230Vac
ANT32132	0...5mA			115Vac
ANT32133	0...5mA			230Vac
ANT33132	0...10mA	Note 2	Min and Max	115Vac
ANT33133	0...10mA			230Vac
ANT34132	0...20mA			115Vac
ANT34133	0...20mA			230Vac
ANT35132	4...20mA			115Vac
ANT35133	4...20mA			230Vac

Cat. Nos.	Direct voltage voltmeter unidirectional direct or by transducers/field sensors			
	Direct voltage measurement Display any proportional process variable Speed from tachometer dynamo measurement Direct input 1...200V Indication of primary current of external shunt 2 programmables alarms, programmable thresholds 41 led bar on 90° arc Accuracy cl.1,5			
	Input	Scale	Alarm type	Auxiliary
ANT6P132	0...60mV <>200V	Note 2	Min and Max	115Vac
ANT6P133			Min and Max	230Vac
ANT6P142			2 Max	115Vac
ANT6P143			2 Max	230Vac
ANT6P162			2 Min	115Vac
ANT6P163			2 Min	230Vac

Note 2 In addition to the product code indicate the scale corresponding to the input

Other executions available

- 2 max alarms** Replace the 7th number of product code with 4
- 2 min alarms** Replace the 7th number of product code with 6

Analog indicators

Flush mounting A.C. insulation meter AL96 series



AL96MI - 96x96mm

Analog indicators

Flush mounting D.C. insulation meter AL96 series



AL96MI - 96x96mm

Cat. Nos. **A.C. insulation meter for IT networks**

Continuous control insulation towards ground
 Connection on ac network up to 690/100V
 Measuring range 2MΩ or 5MΩ
 Complete with accessory
 2 programmables alarms, programmable thresholds 41 led bar on 90° arc
 Accuracy cl.1,5

Cat. Nos.	Input	Scale	Alarm type	Auxiliary
ANTN1131	up to 690Vac	∞...5MΩ...0	High/low	110Vac
ANTN1132			High/low	115Vac
ANTN1133			High/low	230Vac
ANTN1141			2 Low	110Vac
ANTN1142			2 Low	115Vac
ANTN1143			2 Low	230Vac
ANTN1231	up to 690Vac	∞...2MΩ...0	High/low	110Vac
ANTN1232			High/low	115Vac
ANTN1233			High/low	230Vac
ANTN1241			2 Low	110Vac
ANTN1242			2 Low	115Vac
ANTN1243			2 Low	230Vac

Cat. Nos. **D.C. insulation meter for IT networks**

Continuous control insulation towards ground
 Connection on dc network up to 220V
 Measuring range 200kΩ or 2MΩ
 Complete with accessory
 2 programmables alarms, programmable thresholds 41 led bar on 90° arc
 Accuracy cl.1,5

Cat. Nos.	Input	Scale	Alarm type	Auxiliary
ANTN2232	24Vdc	∞...2MΩ...0	High/low	115Vac
ANTN2233			High/low	230Vac
ANTN2242			2 Low	115Vac
ANTN2243			2 Low	230Vac
ANTN2332			High/low	115Vac
ANTN2333	24Vdc	∞...200kΩ...0	High/low	230Vac
ANTN2342			2 Low	115Vac
ANTN2343			2 Low	230Vac
ANTN3232	120Vdc	∞...2MΩ...0	High/low	115Vac
ANTN3233			High/low	230Vac
ANTN3242			2 Low	115Vac
ANTN3243			2 Low	230Vac
ANTN3332			High/low	115Vac
ANTN3333			High/low	230Vac
ANTN3342			2 Low	115Vac
ANTN3343	2 Low	230Vac		
ANTN4232	220Vdc	∞...2MΩ...0	High/low	115Vac
ANTN4233			High/low	230Vac
ANTN4242			2 Low	115Vac
ANTN4243			2 Low	230Vac
ANTN4332			High/low	115Vac
ANTN4333			High/low	230Vac
ANTN4342			2 Low	115Vac
ANTN4343	2 Low	230Vac		

Analog indicators

Flush mounting double synchronizing meters SYNCRO 96DF - 96DV series



Syncro 96DF - 96x96mm



Syncro 96DV - 96x96mm

Cat. Nos.

Syncro 96DF double frequencymeter direct or by VT

2 independent side-by-side meters for an immediate comparison of the frequencies to be synchronized line and generator
 Moving coil equipment
 Direct connection up to 440V or with VT /100V or /110V
 Rating frequency 50 and 60Hz
 Accuracy class 0,5

	Input	Alarm type	Auxiliary
ANRDF11	110-115Vac	45...55Hz	50Hz
ANRDF13	230-240Vac	45...55Hz	50Hz
ANRDF14	400-440Vac	45...55Hz	50Hz
ANRDF31	110-115Vac	55...65Hz	60Hz
ANRDF33	230-240Vac	55...65Hz	60Hz
ANRDF34	400-440Vac	55...65Hz	60Hz

Cat. Nos.

Syncro 96DV double voltmeter direct or by VT

2 independent side-by-side meters for an immediate comparison of the voltages to be synchronized line and generator
 Moving coil equipment, with rectifier
 Direct connection up to 600V or by VT /100V or /110V
 Rating frequency 50 and 60Hz
 Accuracy class 1,5

	Input	Alarm type	Auxiliary
ANRDV11	100V=100%	0...120%	50-60Hz
ANRDV12	100V=100%	0...120%	50-60Hz
ANRDV53	direct	0...300V	50-60Hz
ANRDV23	direct	0...500V	50-60Hz
ANRDV33	direct	0...600V	50-60Hz
ANRDV24	400/100V	0...500V	50-60Hz
ANRDV25	400/100V	0...500V	50-60Hz
ANRDV34	400/100V	0...600V	50-60Hz
ANRDV35	400/100V	0...600V	50-60Hz
ANRDV48	690/100V	0...900V	50-60Hz
ANRDVPP	other ratios	Note 1	50-60Hz

note 1: in addition to the product code pls. indicate the scale and the VT ratio

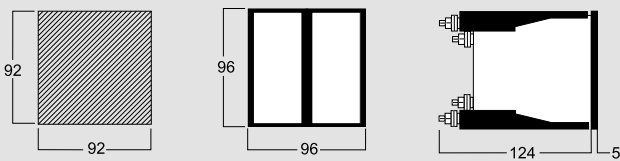
Analog indicators

Flush mounting double synchronizing meters SYNCRO 96DF - 96DV series

Technical features

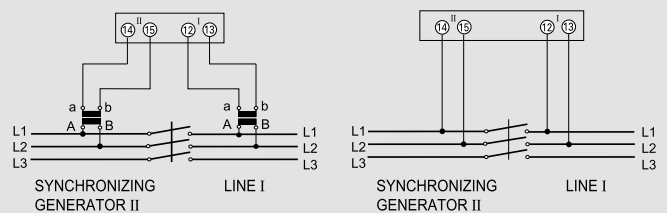
MODEL	FREQUENCY METER	VOLTMETER
TECHNICAL NOTES	NT800	NT801
DISPLAY		
Scale length	90°	
INPUT		
Connection	direct or by external VT	
Rating voltage Un (direct)	230-240 or 400-440V	300 - 500 - 600V
Rating voltage Un (by external VT)	/100V - /110V	
Measure	Frequency	average value measurement, related to r.m.s. value, form factor 1,11
Rated frequency	50-60 Hz	-
Working frequency	45...55Hz (fn 50Hz) - 55...65Hz (fn 60Hz)	47...63Hz
Rated burden	2VA (referred each input 100V)	1,5VA (referred to each input 100V)
Accuracy (EN/IEC 60051)	cl. 0,5	cl. 1,5
INSULATION (EN/IEC 61010-1)		
Installation category	III	
Pollution degree	2	
A.C. voltage test (all circuits and earth)	4kV r.m.s. 50Hz/5s	
ENVIRONMENTAL CONDITIONS		
Nominal temperature range	5...40°C	
Limit range for storage and transport	-40...80°C	
Vibration test according to	EN/IEC 60051-1 paragraph 7.6	
Shock test according to	EN/IEC 60051-1 paragraph 7.6	
MECHANICAL FEATURES		
Housing	flush mounting (panel cutout 92x92mm)	
Front frame	96x96mm (99x99mm with IP54 protection)	
Depth	124mm	
Connections	threaded terminals with M4 nut	
Housing material	self-extinguishing polycarbonate	
Protection degree (EN/IEC 60529)	IP52 (front frame) IP20 (terminals) Option IP54 front frame)	

Dimensions

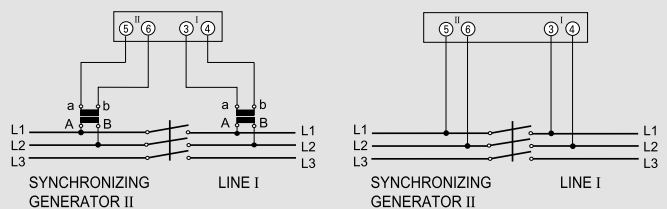


Wiring diagrams

Frequency meter



Voltmeter



Analog indicators

Flush mounting synchronizing meters SYNCRO 96 FD/DV/Z series



Syncro 96FD
96x96mm



Syncro 96VD
96x96mm



Syncro 96Z
96x96mm

Cat. Nos. **Syncro 96FD - Differential frequencymeter by VT**

Indication of percentage difference between the 2 frequencies to be synchronized line and generator
Moving coil equipment, with 2 separate transducer
Accuracy class 1,5

	Input	Scale	Frequency
ANRFD11	100V	20...0...20Hz%	50Hz
ANRFD12	110-115Vac	20...0...20Hz%	50Hz
ANRFD31	100V	20...0...20Hz%	60Hz
ANRFD32	110-115Vac	20...0...20Hz%	60Hz

Cat. Nos. **Syncro 96VD - Differential voltmeter by VT**

Indication of percentage difference between the 2 voltages to be synchronized line and generator
Moving coil equipment, with 2 separate transducer
Accuracy class 1,5

	Input	Scale	Frequency
ANRVD1	100V	20...0...20Vn%	50-60Hz
ANRVD2	110V	20...0...20Vn%	50-60Hz

Cat. Nos. **Syncro 96Z - Nullvoltmeter by VT**

Indication of the difference between the 2 voltages to be synchronized line and generator
Moving coil equipment, with rectifier
Accuracy class 1,5

	Input	Scale	Frequency
ANRG1	100V	0...50V	50-60Hz

Analog indicators

Flush mounting synchronizing meters LED SYNCRO 96 L/C series



Syncro 96L
96x96mm



Syncro 96C
96x96mm

Cat. Nos. **Syncro 96L - LED synchronoscope direct or by VT**

16 red LED on 360°
They measure the phase difference ($\Delta\Phi$) between a generator and the network, showing its condition (lead or lag) until the synchronicity situation (phase displacement $\Delta\Phi=0^\circ$) is reached.
They report the possible phase opposition condition (phase displacement $\Delta\Phi=180^\circ$).

	Input	Frequency
ANRJ1	100-115V	50-60Hz
ANRJ2	230-240V	50-60Hz
ANRJ3	400-440V	50-60Hz

Cat. Nos. **Syncro 96C - LED synchronoscope with synchronizing output relay**

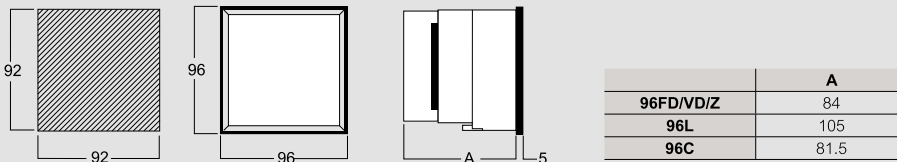
LED synchronoscope with synchronizing output relay (19 red LED on 360° + LED display for phase angle, voltage and frequency line/generator, voltage difference and frequency), direct or connection on voltage transformers
Measure and display synchronism parameters
Voltage difference percentage
Frequency difference percentage
Phase angle

	Input	Auxiliary	Frequency
ANTJ11	30...150V	18...36Vdc	35...80Hz
ANTJ21	30...150V	95...126Vac	35...80Hz
ANTJ10	110...620V	18...36Vdc	35...80Hz
ANTJ30	110...620V	360...440Vac	35...80Hz

Technical features

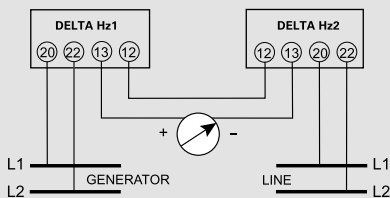
MODEL	96FD	96DV	96Z	96L	96C
TECHNICAL NOTES	NT802	NT803	NT805	NT804	NT595
DISPLAY					
Scale length	90°			360°	-
Standard scale marking	20...0...20% ΔHzn	20...0...20% ΔVn	0...50V		
INPUT					
Connection	2 independent inputs with external transducer accessory			direct or by VT	-
Rating voltage Un (direct)	100-110Vac			100-115V 230-240V 400-440V	-
Rating voltage Un (by VT)	/100V - /110V			-	-
Measure	Frequency	average value measurement, related to r.m.s. value, form factor 1,11			30...150V - 110...620V
Rated frequency	50-60 Hz				35...80Hz
Working frequency	20...0...20% ΔHzn	47...63Hz			
Rated burden	≤ 5,5VA	≤ 2,5VA	≤ 0,2VA	3VA (100V)	< 500μA
Accuracy (EN/IEC 60051)	cl. 1.5				
ENVIRONMENTAL CONDITIONS					
Nominal temperature range	-25...50°C			-5...55°C	-10...65°C
Limit range for storage and transport	-40...80°C				-40...70°C
Vibration test according to	EN/IEC 60051-1 paragraph 7.6				
Shock test according to	EN/IEC 60051-1 paragraph 7.6				
MECHANICAL FEATURES					
Housing	flush mounting (panel cutout 92x92mm)				
Front frame	96x96mm (99x99mm with IP54 protection)				
Depth	84mm			105mm	81.5mm
Connections	threaded terminals with M4 nut			screw terminals / fast-on 6,3x0,8mm	
Housing material	self-extinguishing polycarbonate			self-extinguishing ABS	
Protection degree (EN/IEC 60529)	IP52 (front frame) IP20 (terminals) Option IP54 front frame)				

Dimensions

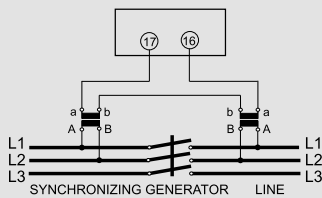


Wiring diagrams

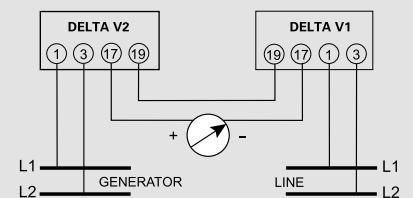
Syncro 96FD



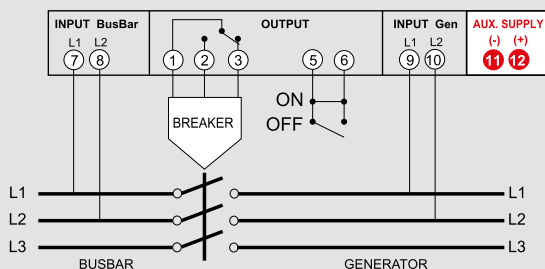
Syncro 96Z



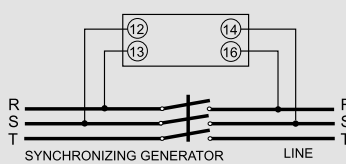
Syncro 96DV



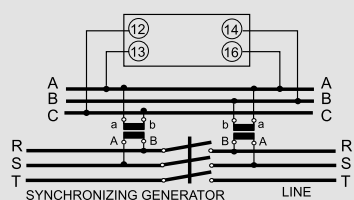
Syncro 96C



Syncro 96L



Syncro 96L



Analog indicators

Correct phase sequence indication and phase loss warning



ANQB1
72x72mm



ANRB1
96x96mm



AN9B1

Cat. Nos.	RQ72SE	
	Flush mounting LED sequencymeter 72X72mm	
	Input	Frequency
ANQB1	100...440V	50Hz

Cat. Nos.	RQ96SE	
	Flush mounting LED sequencymeter 96X96mm	
	Input	Frequency
ANRB1	100...440V	50-60Hz

Cat. Nos.	D4SE	
	Modular LED sequencymeter	
	Input	Frequency
AN9B1	100...440V	50-60Hz

Technical features

MODEL	RQ72SE	RQ96SE	D4SE
TECHNICAL NOTES	NT806	NT806	NT807
DISPLAY			
Type	red LED's		
Phase presence	LED "L1-L2-L3" on		
Correct cyclic sequence	"CORRECT" LED on		
Wrong cyclic sequence	"INCORRECT" LED on		
Phase failure	"CORRECT and INCORRECT" LED's contemporaneously on with turning off of LED corresponding to failing phase (L1 or L2 or L3)		
INPUT			
Line voltage Un	100...440V		
Rating frequency	50-60Hz		
Working frequency	47...63Hz		
Rated burden	≤ 2VA		
ENVIRONMENTAL CONDITIONS			
Reference temperature	23°C		
Operating range	-25...50°C		
Limit range for storage and transport	-40...80°C		
Vibration test according to	EN/IEC 60051-1 paragraph 7.6		
Shock test according to	EN/IEC 60051-1 paragraph 7.6		
MECHANICAL FEATURES			
Housing	flush mounting (panel cutout 68x68mm)	flush mounting (panel cutout 92x92mm)	4 modules DIN43880 (35mm)
Connections	screw terminal / fast-on 6,3x0,8mm		screw terminal cable up to 4mm ²
Housing material	self-extinguishing polycarbonate		
Protection degree (EN/IEC 60529)	IP52 (front frame) IP20 (terminals) Option IP54 front frame	IP50 (front frame) IP20 (terminals)	

Analog indicators

Hourmeters



Cat. Nos.			Flush mounting hourmeters		
			7 digits mechanical numerator (resolution depending on the supply voltage) It counts the total working time for machines, motors or any electrical device. Counting of working times allows to program maintenance interventions, to survey costs, to check the guarantee terms. Time counting in hours and hundredths of hour Maximum display 99.999,99 (aux. ac) – 999.999,9 (aux. dc) Auxiliary supply dc 10...80 - 110Vdc Technical notes NT777- NT779- NT779		
RQ480	RQ720	RQ960	Voltage	Frequency	Scale
ANPA1	ANQA1	ANRA1	100-115V	50Hz	00000.00h
ANPA3	ANQA3	ANRA3	230-240V	50Hz	
ANPA5	ANQA5	ANRA5	400-415V	50Hz	
ANPA6	ANQA6	ANRA6	24V	50Hz	
ANPA7	ANQA7	ANRA7	48V	50Hz	
ANPA2	ANQA2	ANRA2	100-115V	60Hz	
ANPA4	ANQA4	ANRA4	230-240V	60Hz	
ANPAV	-	-	24V	60Hz	
ANPA8	ANQA8	ANRA8	10...80V	dc	
ANPA9	ANQA9	ANRA9	110V	dc	

Cat. Nos.		Flush mounting hourmeters		
		7 digits mechanical numerator (resolution depending on the supply voltage) It counts the total working time for machines, motors or any electrical device. Counting of working times allows to program maintenance interventions, to survey costs, to check the guarantee terms. Time counting in hours and hundredths of hour Maximum display 99.999,99 Auxiliary supply 100...115 – 230...240Vac Technical notes NT776- NT788		
R360	C580	Voltage	Frequency	Scale
ANXA3	-	230-240V	50Hz	00000.00h
ANXA6	-	24V	50Hz	
-	ANZA8	10...80V	dc	
ANXAV	-	24V	60Hz	

Cat. Nos.		Modular hourmeters		
		7 digits mechanical numerator (resolution depending on the supply voltage) It counts the total working time for machines, motors or any electrical device. Counting of working times allows to program maintenance interventions, to survey costs, to check the guarantee terms. Time counting in hours and hundredths of hour Maximum display 99.999,99 Auxiliary supply 100...115 – 230...240Vac Technical notes NT780		
D20	Voltage	Frequency	Scale	
ANYA1	100-115V	50Hz	00000.00h	
ANYA3	230-240V	50Hz		
ANYA6	24V	50Hz		
ANYAV	24V	60Hz		

Analog indicators

3-phase switches



Cat. Nos.		C48 Flush mounting switches	
		Amperometric and Voltmetric switches They allow to use only one meter to measure, by scanning, the linked and phase voltages or the currents in a three-phase system Technical notes NT749	
		Description	
AV104		amperometric single-pole to 3 gears (12A-690V)	
AV105		voltmeter for 3 voltages (12A-690V)	
AV106		voltmeter for 3 phase voltages, 3 phase-neutral (12A-690V)	
Cat. Nos.		CD3 Modular switches	
		Amperometric and Voltmetric switches They allow to use only one meter to measure, by scanning, the linked and phase voltages or the currents in a three-phase system Technical notes NT750	
		Description	
AV114		amperometric single-pole to 3 gears (12A-690V)	
AV115		voltmeter for 3 voltages (12A-690V)	
AV116		voltmeter for 3 phase voltages, 3 phase-neutral (12A-690V)	