



NMC

Measuring transducer for AC currents

Clip-on measuring transducer for MBS current transformers in modular construction, versions with (NMC 2/3/4) or without auxiliary voltage supply (NMC-0)

Features/benefits

- measuring input: Sinus-shaped AC current (1 A or 5 A)
arithmetic mean value measurement, effective value calibrated
- measuring output: Unipolar output signal
- measurement principle: Rectifier process
- direct notching with MBS current transformers through contact studs
- economic wiring

Application

Measuring transducers for the transformation of sinus-shaped AC current. For an output signal a load-independent DC current and an imprinted DC voltage signal is available, which stands proportionally to the measurement value of the input volume. These signals can be used for display, recording, monitoring and or control function.

Simultaneously, the secondary current of the current transformers can be utilised to operate conventional needle instruments .

The measuring transducer fulfills the requirements and regulations with regard to the electromagnetic compatibility (EMV) and security (IEC 1010 and EN 61010). This measuring transducer has been designed, produced, and tested in accordance with ISO 9001.

Technical data NMC 0/2/3/4

measuring input \oplus		auxiliary power $\rightarrow \circ$	
nominal frequency f_N	50/60 Hz	AC power supply	230 V ± 10 % (50 ... 60 Hz) or 110 V ± 10 % (50 ... 60 Hz)
rated input current I_N	1 A or 5 A	DC	24 V ± 15 %
power input	≤ 1 VA	power input	≤ 1.5 W (2.5 VA)
from measuring circuit	(2.5 VA w/o auxiliary voltage)	accuracy	
overload capacity	1.2 I_N , constant 8 · I_N , <40 sec.	reference value	output end value
measuring output \rightarrow		accuracy class	class 0.5
load-independent DC current	0 ... 20 mA or 4 ... 20 mA	accuracy range	NMC 2/3/4 1 ... 120 % I_N NMC 0 15 ... 120 % I_N
max. burden resistance	500 Ω	warming-up time	≤ 5 min.
max. burden voltage	≤ 15 V	protection	
current limit		electrocution protection	IP 40, housing (test wire, EN 60529) IP 20, connection terminals (test digit, EN 60529)
under overload	≤ 34 mA	contamination class	2
imprinted DC voltage	0 ... 10 V or 2 ... 10 V*	test voltages (DIN 57411)	4 kV, activ circuits against housing 4 kV, auxiliary voltage against measurement outputs (230 V AC-version) 500 V, auxiliary voltage against measurement output (24 V DC-version)
min. burden resistance	≥ 10 k Ω		
max. burden voltage under overload	≤ 18 V		
residual ripple of the output current	≤ 1 % p.p.		
response time	< 500 ms		

*Live-Zero only with auxiliary voltage

NMC measuring transducer for sinus-shaped alternating currents, for clip-on onto MBS current transformer (rectifier-mean value measurement)

Auxiliary voltage 24 V DC galvanically separated

Type NMC (2)	Measuring outputs			Primary current [A]	Suitable for current transformers in the product range
	0...20 mA and 0... 10 V	4...20 mA and 0... 10 V	4...20 mA and 2... 10 V		
211	39212	39232	39252	1	A
212	39213	39233	39253	1	B
213	39214	39234	39254	1	C
214	39215	39235	39255	1	D
221	39012	39032	39052	5	A
222	39013	39033	39053	5	B
223	39014	39034	39054	5	C
224	39015	39035	39055	5	D

measuring frequency 50/60 Hz; weight: 80 g; operating range 0 ... 120 % I_N

Auxiliary voltage 230 V AC galvanically separated

Type NMC (3)	Measuring outputs			Primary current [A]	Suitable for current transformers in the product range
	0...20 mA and 0... 10 V	4...20 mA and 0... 10 V	4...20 mA and 2... 10 V		
311	36212	36232	36252	1	A
312	36213	36233	36253	1	B
313	36214	36234	36254	1	C
314	36215	36235	36255	1	D
321	36041	36032	36052	5	A
322	36042	36033	36053	5	B
323	36043	36034	36054	5	C
324	36044	36035	36055	5	D

measuring frequency 50/60 Hz; weight: 80 g; operating range 0 ... 120 % I_N

Auxiliary voltage 110 V AC galvanically separated

Type NMC (4)	Measuring outputs			Primary current [A]	Suitable for current transformers in the product range
	0...20 mA and 0... 10 V	4...20 mA and 0... 10 V	4...20 mA and 2... 10 V		
411	76212	76232	76252	1	A
412	76213	76233	76253	1	B
413	76214	76234	76254	1	C
414	76215	76235	76255	1	D
421	76012	76032	76052	5	A
422	76013	76033	76053	5	B
423	76014	76034	76054	5	C
424	76015	76035	76055	5	D

measuring frequency 50/60 Hz; weight: 80 g; operating range 0 ... 120 % I_N

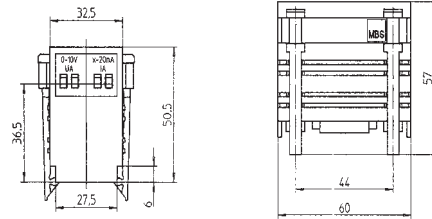
Without auxiliary voltage supply, power requirements ≥ 2.5 VA

Type NMC (0)	Measuring outputs			Primary current [A]	Suitable for current transformers in the product range
	0...20 mA and 0... 10 V				
011	37212			1	A
012	37213			1	B
013	37214			1	C
014	37215			1	D
021	37012			5	A
022	37013			5	B
023	37014			5	C
024	37015			5	D

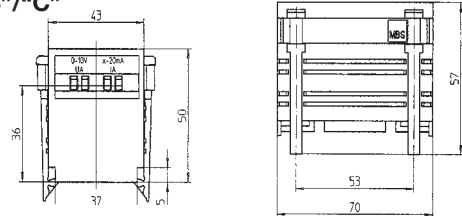
measuring frequency 50/60 Hz; weight: 80 g; operating range 15 ... 120 % I_N

drawings

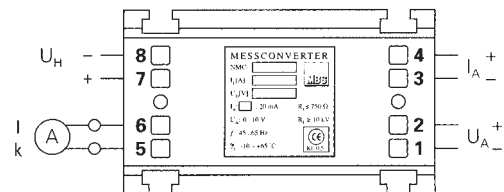
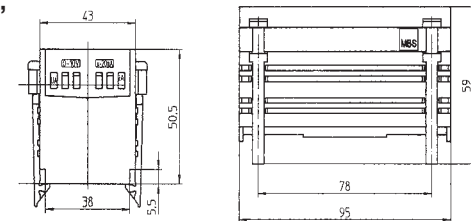
“A”



“B”/“C”



“D”



Comment: The dimensions of the measuring transducer are relevant only for the adaption to the existing current transformer construction types. All units consist of the same electronic modules.

NMC selection chart

Primary current A	Construction type			
	A	B	C	D
1				
5				
10		WSK 30		
15			WSK 40	
20				
25				
30				
40				
50				
60				
75				
80				
100				
125				
150				
200				
250				
300				
400				
500				
600				
750				
800				
1000				
1200				
1250				
1500				
1600				
2000				
2500				
3000				

NMC-AD

Adaptor for current transformers of any make to clip onto 35 mm DIN rail

Features/benefits

- accommodation of any make of current transformer in connection with transducers of type NMC
- direct mounting of measuring transducers, in visual deviation to the measuring point, onto an approved 35 mm DIN rail



Order instruction	Application with NMC art.-no.
36011	39xx2; 36xx1/2; 37xx2; 76xx2

weight: 70 g

connection	description.
6, 7	incoming terminals 5 A or 1 A (sourced from current transformers)

Short circuit adaptor NMC-KSx



Application

Adaptors of type NMC-KSx are clipped onto current transformers. When the secondary circuit of a current transformer is not being energized the adaptors prevent idling of the transformer, and thus the occurrence of high neutral voltages in the nominal current of the current transformer.

Type NMC-KSx	Art.-no.	Applicable with MBS current transformer types													Drawing
		WSK 30	WSK 40	ASR 22.3	ASK 21.3	ASK 31.3	ASK 41.3	ASK 41.4	ASK 421.4	ASK 61.4	ASK 63.4	ASK 81.4	ASK 101.4	ASK 105.6	
0	39090	•		•	•	•	•								A
1	39091		•												B
2	39092							•	•						C
3	39093									•	•	•	•	•	D