Nepco-TRD 8200
Transducer for AC

With power supply
Carrying rail housing p8/35

Application

The transducer *Nepco*-TRD8200 (Fig.1) converts a sinusoidal AC
AC Current or voltage   into a **load independent** DC current or a
DC voltage proportion to the measured **load independent** value.

The transducers fulfils all the important requirements and
regulations concerning electromagnetic compatibility **EMC** and
safety
(IEC 1010 resp. EN 61 010). It was developed and is manufactured
and tested in strict accordance with the quality assurance standard
ISO 9001.

Features

- measuring input: AC current, sine wave forms

Measured variable	Measuring range limits
AC current	0 … 1A Or 0 … 5

- measuring output: unipolar and live zero output variables

- also available with output signal 4…20 mA in 2- wire connection

- measuring principle: Rectifier method

Table 1: standard versions

The following transducer versions are available as standard ver-
Sions. It is only necessary to quote the **order NO . :**

Nominal frequency	Measuring Rage	Output signal	Power supply	**Order No**
50/60 Hz	Current	4 …20 mA	As reqiured	8201
	Voltage	4 …20 mA		8202
	Watt	4 … 20 mA	"	8203
	Freq	4 …20 mA	"	8205
	Var	4 … 20 m A	"	8204
	Tap	4 … 20 mA	"	8206

Please complete the order code 538-41... … according to table 2:
"specification and ordering information "for versions with user-spe-
cific input and/or output ranges.

Technical data
Measuring input E
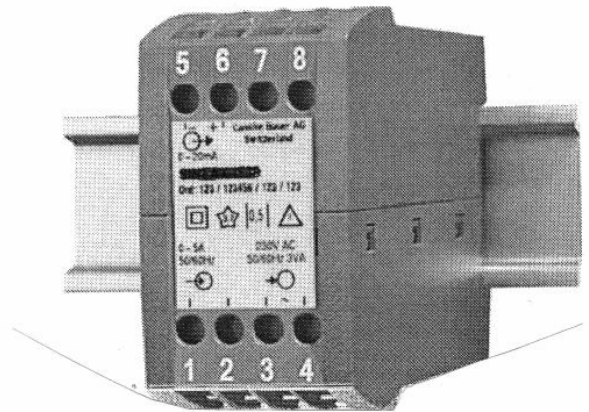Nominal frequency fn : 50 / 60 Hz

Fig. 1 Transducer *Nepco*-TRD in housing **p8/35**
Clipped onto a top – hat rail.

Nominal input current I_N
(measuring range end value): measuring rang limit values

$$0 …1 A$$
$$0 …5A$$

Own consumption ≤ 5 mV . I_N with input end value
Overload capacity:

Measured Quantity I_N	Number of applications	Duration Of one application	Interval between Two successive applications
1. 2 I_N	....	continuously	....
20 I_N	10	1 s	100 s

Measuring output A

Load – independent
DC current: 0 … 1.0 to 0 … 20 m A
                 Resp. live zero
                 0.2 … 1 to 4 … 20 mA

Burden voltage: 15 V
External resistance: 500 Ω

Load – independent
DC voltage: 0 … 1 to 0 … 10 V

Nepco TRD8200
Transducer for AC current

Residual ripple in
Output current: < 30 mA
Voltage limit under
R = ∞ :   < 40 V

Residual ripple in
Output current :   ≤ 1%p.p
Setting time: < 300 ms

Power supply H →
AC voltage: 24, 110, 115, 120, 230 or 400V, ±15%, 50/60 Hz
Power consumption approx. 3 VA

DC voltage :   24 V -48V-110V-125V-220V /±20%
Power consumption approx.1.5 W

DC or AC voltage :   DC, AC power pack (DC Or 40 – 400 Hz) 85-230 V Or 24 - 60 V DC -15/ + 33%, AC± 15%
Power consumption ≤ 1.5 W resp. ≤3 VA

Accuracy(acc to EN60 688)

Reference value: Output end value
Accuracy: Class 0.5 for I and V and class 1 for w and var

Reference conditions:
Ambient temperature   15 … 30 ^{0}C
Input frequency   50 Hz
Curve shape   Sine- wave, Distortion factor < 1%

Output burden   Current: 0.5 R_{ext} max. Voltage: 2.3R_{ext} min.

Power supply   In rated range

Safety
Protection class: ll (protection isolated, EN 61 010)
Housing protection: IP 40, housing (test wire, EN 60 529) IP 20, terminals (test finger, EN 60 529)
Contamination level :   2
Over voltage category: lll
Rated insulation voltage

(versus earth):   300 V input
300 V power supply AC
50 V power supply 24 V DC
50 V output

Test voltage: 50 Hz,1min -EN 61-010-1 3700 V, input versus all other circuits as well as outer surface

Installation data
Mechanical design: Housing **p8/35**
Material of housing: ABS

Mounting: For rail mounting

Connecting terminals
Connection element: Screw – type terminals with indirect wire pressure
Permissible cross section
Of the connection leads: 4.0 mm^2 single wire or 2 × 2.5 mm^2 fine wire

Environmental conditions
Operating temperature: -10 to + 55 ^{0}C
Storage temperature: -40 to + 70 ^{0}C
Relative humidity of
annual mean: ≤ 75%
Altitude: 2000 m max.
In door use statement

Ambient tests
EN 60 068-2-6:   vibration
Acceleration: ±2 g
Frequency range: 10 … 150 … 10 HZ, rate of frequency sweepe: 1 octave/ minute
Number of cycles: 10, in each of the three axes
EN 60 068-2-27 :   Shock
Acceleration: 3 × 50 g
3shocks each in 6 directions
EN 60 068-2-1/-2/-3:   Cold, dry heat, damp heat
IEC 1000-4-2/-3/-4/-5/-6
EN 55 011:   Electromagnetic compatibility

Table 2: specification and ordering information (see also table 1: standard versions)

Order code *Nepco*-TRD 8200			4	1	A/B/Z	1/2	1–D	0/1	0/C
Features , selection	*SCODE	no-go							
1. mechanical design									
4) housing p8/35 for rail mounting			4						
2. nominal input frequency									
1) 50/ 60 Hz				1					
3. Measuring range									
A) 0 … 1 A					A				
B) 0 … 5 A					B				
Z) voltage [A]					Z				
4. Output signal									
1) 0 … 20 mA, R_{ext} ≤ 500Ω	A					1			
2) 4 … 20 mA , R_{ext} ≤ 500 Ω	A					2			
5. Power supply									
1) 24 V, 50/60 Hz	C	B					1		
2) 110 V, 50/60 Hz	C	B					2		
3) 115 V, 50/60 Hz	C	B					3		
4) 120 V, 50/60 Hz	C	B					4		
5) 230 V, 50/60 Hz	C	B					5		
6) 400V, 50/60 Hz,max. 300 V versus earth	C	B					6		
A) 24 V DC	C	B					A		
B) 24 V DC via output circuit at 2-wire connection	C	B					B		
C) 24 … 60 V DC, AC (DC, AC power pack)		B					C		
D) 85 … 230 V DC, AC (DC, AC power pack)		B					D		
6. Measuring range adjustable									
0) measuring range end value permanently set (standard)								0	
1) Measuring range can be adjusted approx. ± 10%		C						1	
Line 1: only in combination with DC, AC power pack, feature 5, Line C or D!									
7. Test certificate									
0) without test certificate									0
D) test certificate in Canada									C

* Lines with letter (s) under "no-go" cannot be combined with preceding lines having the same letter under "SCODE".

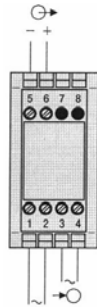**Electrical connections**

Fig. 2. *Nepco*-TRD 8200
AC power supply

Fig. 4. *Nepco*-TRD8200
as 2- wire transducer with
output 4 … 20 mA

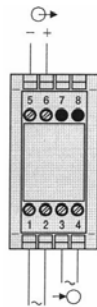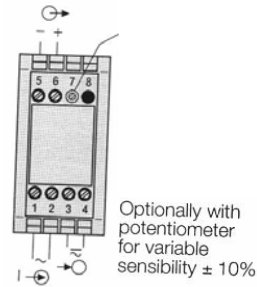H = 24V, – 50 / + 33%

Fig. 3. *Nepco*-TRD 8200
DC power supply

Fig . 5. *Nepco*-TRD8200
DC, AC power supply, in
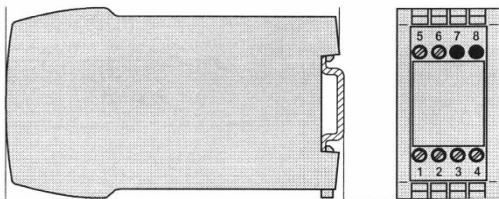Version with built-in DC,AC
Power pack .

Optionally with
potentiometer
for variable
sensibility ± 10%

Dimensional drawing

standard accessories
Operating instructions in three
languages: English, German, French

Fig .6. *Nepco*-TRD8200 in housing p8/35 clipped onto a top-hat rail
(35x 15 mm or 35x 7.5 mm, acc to EN50 022)