AC/DC Current transducer DHR-C420

I_{PN} = 100..1000 A

The transducer for the electronic measurement DC & distorted AC waveforms current, with galvanic isolation between the primary (High power) and the secondary circuits (Electronic circuit). True RMS 4-20mA current output.

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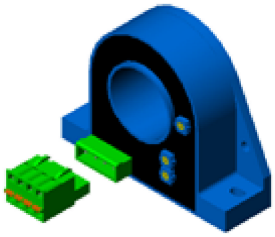

Electrical data

Primary Nominal DC & AC Current I_{PN} (A.t.RMS)	Primary AC Current Max. Peak Value (*) I_P (A)	Analogue Output Signal I_{OUT} (mADC)	Type
100	600	4-20	**DHR 100 C420**
200	600	4-20	**DHR 200 C420**
300	1000	4-20	**DHR 300 C420**
400	1000	4-20	**DHR 400 C420**
500	1800	4-20	**DHR 500 C420**
600	1800	4-20	**DHR 600 C420**
1000	1800	4-20	**DHR 1000 C420**

R_L	Load resistance	< 300	Ω
V_C	Supply voltage (loop powered)	+20 .. 50	V DC
I_C	Current consumption	30 mA + I_{OUT}	
	Limitation of output current	< 25	mA
	Overloaded input current (Ampere Turns)	30000	A.t

Accuracy-Dynamic performance data

X	Accuracy @ I_{PN}, T_A = 25°C (without offset)	< ±1	% of I_{PN}
ε_L	Linearity (1% of I_{PN} .. ± I_{PN})	< ±1.0	% of I_{PN}
I_{OE}	Electrical offset current, T_A = 25°C	4	mA
I_{OT}	Thermal drift of I_{OE} (0..+60 °C)	±3.2	µA/K
	(-40..+70 °C)	±6.4	µA/K
$TC\varepsilon_G$	Thermal drift of the gain including offset (% of reading)	±0.1	%/K
t_r	Response time @ 90% of I_P	< 150	m s
f	Frequency bandwidth (±1%)	DC 20..6000	Hz

General data

T_A	Ambient operating temperature	-40 .. +70	°C
T_S	Ambient storage temperature	-40 .. +85	°C
m	Mass	260	g
	Protection type	IP20	
	UL94 classification	V0	

Notes : - Installation and maintenance should be done with power supply disconnected.
- The operator must have accrediation to install this material.
- The users must take care of all protection gurantee against electrical shock.
(*) The Max. Peak AC Current is the highest peak level of the primary signal that is taken into account for accurate True RMS calculation. Yet the device is designed for maximum continuous True RMS value equal to I_{PN}, whereas the output is limited by the above specified output limitation.

Features

- VFD and SCR waveforms current measurement
- True RMS output
- 4-20mA current output
- Panel mounting
- Eliminates insertion loss

Advantages

- Large aperture for cable up to Ø32mm
- High isolation between primary and secondary circuits
- Easy to mount

Applications

- VFD Controlled Loads:
  VFD output indicates how the motor and attached load are operating.
- SCR Controlled Loads:
  Acurate measurement of phase angle fired or burst fired (time proportioned)
  SCRs. Current measurement gives faster response than temperature measurement.
- Switching Power Supplies and Electronic Ballasts:
  True RMS sensing is the most accurate way to measure power supply or ballast input power.

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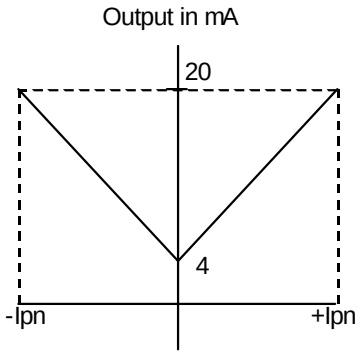
Current Transducer DHR-C420

Isolation characteristics

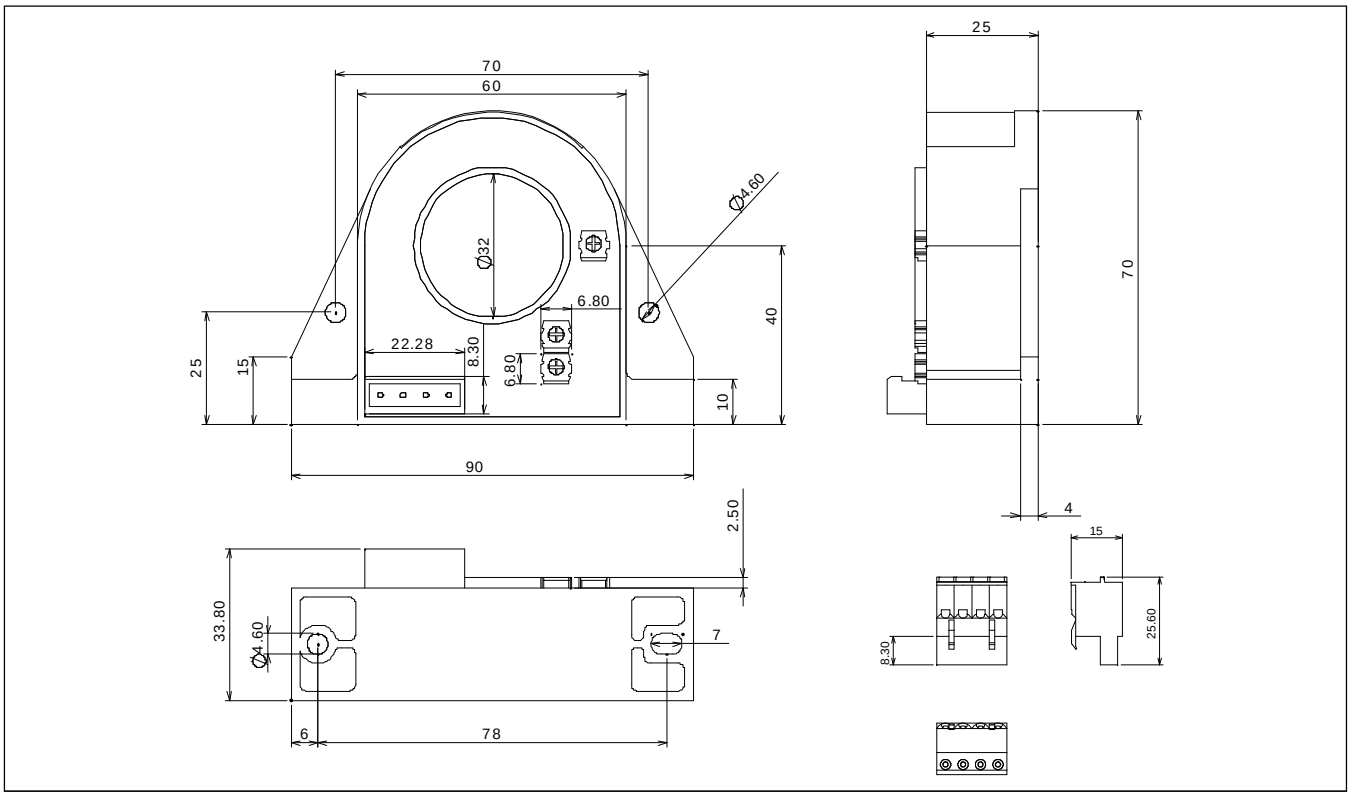
V_b	Rated Voltage	1000	V
	with IEC 61010-1 acc. to the 61326 standards and following conditions :		
	- Single insulation		
	- Over voltage category CAT III		
	- Pollution degree PD2		
	- None uniform field		
V_d	R.m.s. voltage for AC insulation test, 50Hz, 1min	5	kV
dCp	Creepage distance	11	mm
dCl	Clearance distance	11	mm
CTI	Comparative tracking index (Group I)	600	

Notes :

Output polarity with DC input

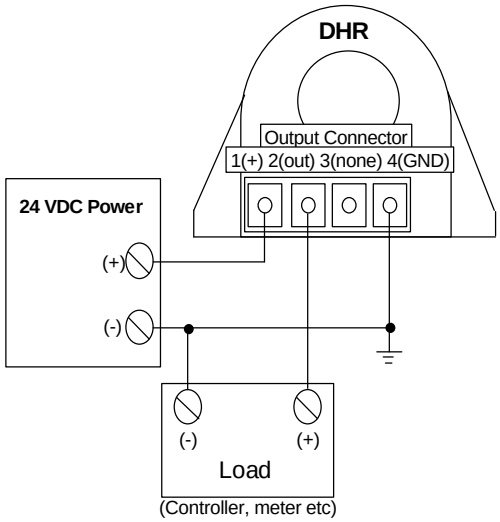


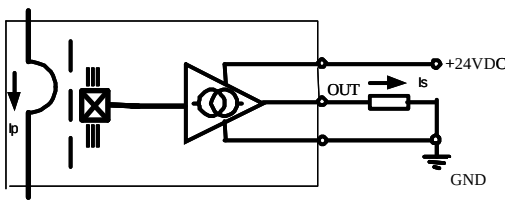
Dimensions DHR-C420 (in mm. 1 mm = 0.0394 inch)



Connections

- Wires up to 2 mm ∅
- Female connector provided (screw terminals)





Mechanical characteristics

• General tolerance	±1 mm
• Primary aperture	∅ 32.0 mm
• Panel mounting	4 holes ∅ 4.6 mm
• Distance between holes	70 mm & 78 mm (see above drawings)

For panel mounting, replace M4 screws by new one (not supplied) with appropriate length to panel´s thickness.

Safety

This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the following manufacturer's operating instructions.

Caution, risk of electrical shock

When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply). Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a built-in device, whose conducting parts must be inaccessible after installation.

A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

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