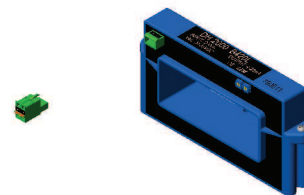


DC current transducer DH-B420L B

Split core transducer for the electronic measurement of bidirectional DC currents, with galvanic isolation between the primary circuit (high power) and the secondary circuit (electronics). 4-20 mA loop-powered current output.



$$I_{PN} = 500 \dots 2000 \text{ A}$$



Electrical data

	Primary nominal current I_{PN} (At)	Output current I_{OUT} (mA)	Type
	500	4-20	DH 500 B420L B
	800	4-20	DH 800 B420L B
	1000	4-20	DH 1000 B420L B
	1500	4-20	DH 1500 B420L B
	2000	4-20	DH 2000 B420L B
R_L	Load resistance with $V_C = +24 \text{ V DC}^{1)}$		< 500 Ω
I_{SL}	Output current limitation		< 30 mA
V_C	Supply voltage (loop-powered)		+ 20 ... 30 V DC
\hat{I}_P	Overload capability		30000 At

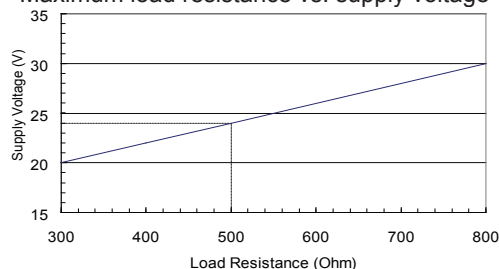
Performance data ²⁾

X	Accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$ (excluding offset)	$\leq \pm 1$	%
ϵ_L	Linearity error for $(1\% \text{ of } I_{PN}) < I_P < I_{PN}$	$\leq \pm 1$	%
I_{OE}	Electrical offset current @ $T_A = 25^\circ\text{C}$	$12 \text{ mA} < \pm 1$	%
TCI_{OE}	Temperature coefficient of I_{OE} (0 ... + 60°C)	± 3.2	$\mu\text{A/K}$
	(- 10 ... + 70°C)	± 6.4	$\mu\text{A/K}$
TCI_{OUT}	Temperature coefficient of I_{OUT} (% of reading)	± 0.2	%/K
t_r	Response time to 90 % of I_{PN} step	< 1	ms
BW	Frequency bandwidth ($\pm 1 \text{ dB}$)	DC	Hz

General data

T_A	Ambient operating temperature	- 10 ... + 70	$^\circ\text{C}$
T_S	Ambient storage temperature	- 10 ... + 85	$^\circ\text{C}$
m	Mass	650	g
IPxx	Protection degree	IP20	

Notes: ¹⁾ Maximum load resistance vs. supply voltage



²⁾ WARNING: the specified characteristics of the transducer are only guaranteed if the paired top and bottom parts are mounted together and not mixed with similar parts of other transducers.

Features

- DC Bipolar measurement
- Open loop Hall effect transducer
- Loop powered 4-20 mA current output
- Split core case
- Busbar and panel mounting
- Isolated plastic case recognized according to UL 94-V0.

Advantages

- High isolation between primary and secondary circuits
- Through-hole, no insertion loss
- Large aperture for busbar or cable
- Easy installation.

Applications

- **Battery charge & discharge monitoring**
- **DC power supply for TELECOM** (monitoring & measuring)
- **Uninterruptible Power Supplies** (UPS).

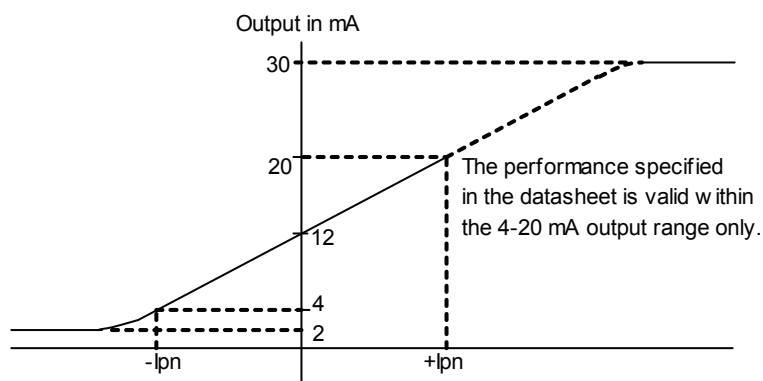
Application domain

- Energy & Automation.

Current Transducer DH-B420L B

Transfer characteristics

Bipolar measurement of DC input ¹⁾



Isolation characteristics

V_b	Rated insulation voltage rms ²⁾	500	V
	according to the standard IEC 61010-1 and with the following conditions:		
	- Reinforced isolation		
	- Over voltage category III		
	- Pollution degree PD2		
	- Heterogeneous field		
V_d	Rms voltage for AC isolation test ³⁾ , 50 Hz, 1 min	5.8	kV
dCp	Creepage distance min	11.9	mm
dCl	Clearance distance min	11.9	mm
CTI	Comparative Tracking Index (group I)	250-399	

Notes: ¹⁾ The performance specified in the datasheet is valid within the 4-20 mA output range only.

²⁾ If isolated cable is used for the primary circuit, the voltage category could be improved according to the isolation characteristics given by the cable manufacturer.

³⁾ Between primary (completely filling the aperture) and secondary.

Current Transducer DH-B420L B

Safety and warning notes

In order to guarantee safe operation of the transducer and to be able to make proper use of all features and functions, please read these instructions thoroughly! Safe operation can only be guaranteed if the transducer is used for the purpose it has been designed for and within the limits of the technical specifications. Ensure you get up-to-date technical information that can be found in the latest associated datasheet under www.lem.com.



Caution! Risk of danger

Ignoring the warnings can lead to serious injury and/or cause damage!

The electric measuring transducer may only be installed and put into operation by qualified personnel that have received an appropriate training.

The corresponding national regulations shall be observed during installation and operation of the transducer and any electrical conductor.

The transducer shall be used in electric/electronic equipment with respect to applicable standards and safety requirements and in accordance with all the related systems and components manufacturer' operating instructions.



Caution, Risk of electrical shock

When operating the transducer, certain parts of the module may carry hazardous live voltage (eg. primary conductor, power supply).

The user shall ensure to take all measures necessary to protect against electrical shock.

The transducer is a build-in device containing conducting parts that shall not be accessible after installation.

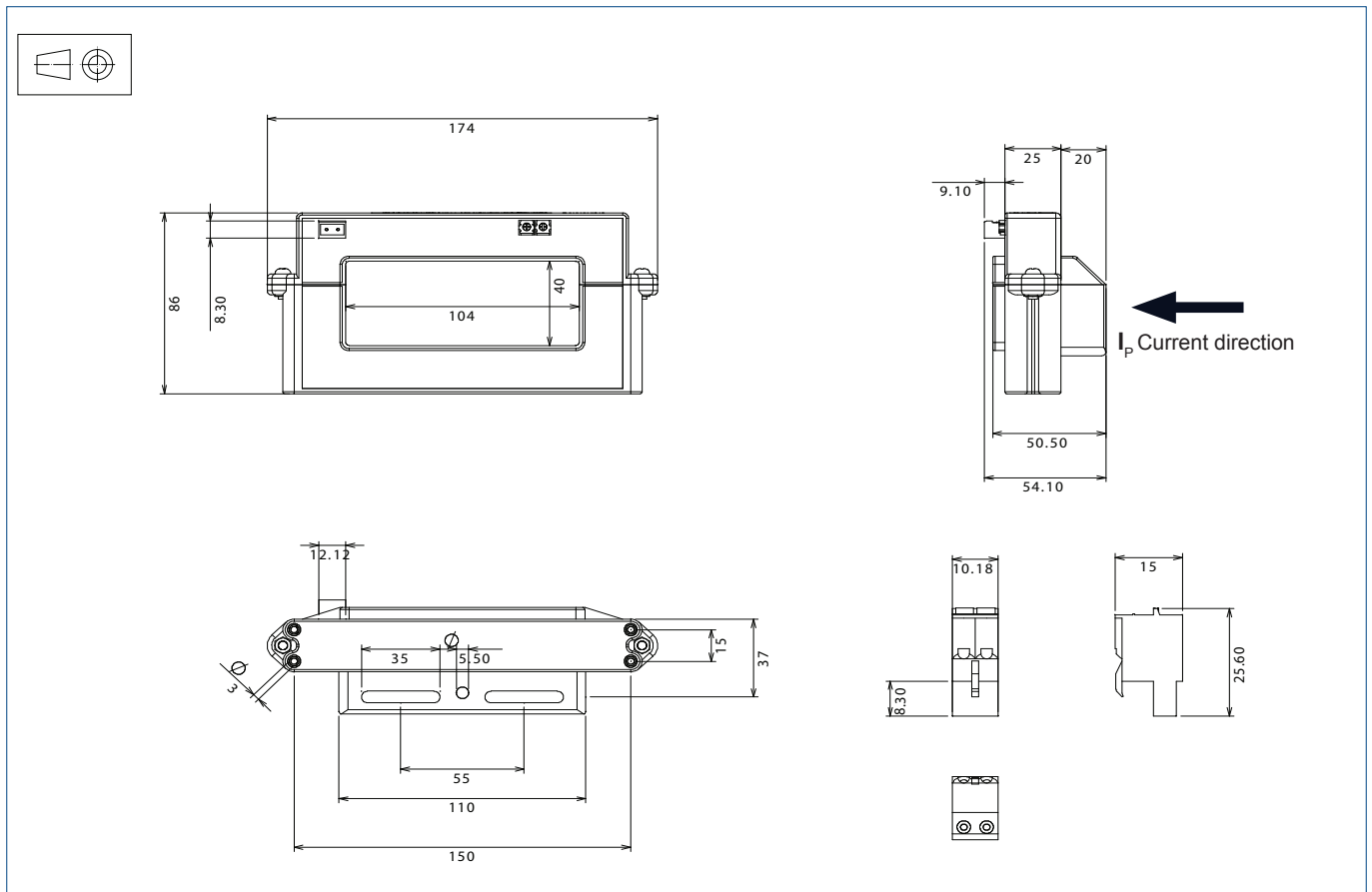
A protective enclosure or additional insulation barrier may be necessary.

The transducer shall not be put into operation if the jaw opening is open (split core version) or the installation is not completed.

Installation and maintenance shall be done with the main power supply disconnected except if there are no hazardous live parts in or in close proximity to the system and if the applicable national regulations are fully observed.

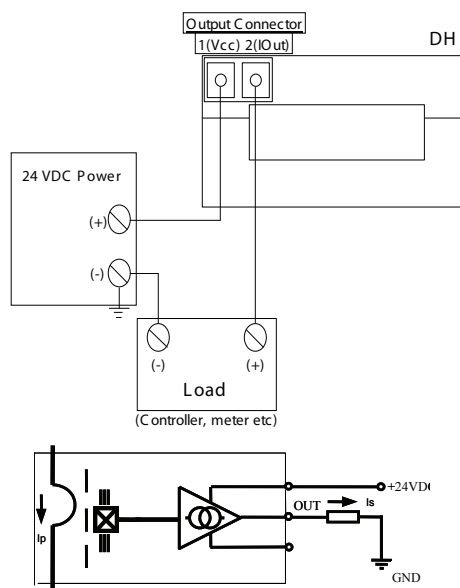
Safe and trouble-free operation of this transducer can only be guaranteed if transport, storage and installation are carried out correctly and operation and maintenance are carried out with care.

Dimensions DH-B420L B (in mm)



Connections

- Wires up to \varnothing 2 mm
- Plug in connector provided (spring terminal blocks)
 - Manufacturer: Phoenix Contact - Type: FKC 2,5/ 2-ST-5,08
 - Order Nb.1873058



Mechanical characteristics

- General tolerance ± 1 mm
 - Primary aperture 104 x 40 mm
 - Mounting
 - Busbar fastening 1 hole \varnothing 5.5 mm & 2 slots 5.5 x 30 mm
 - Panel mounting 4 holes \varnothing 3.2 mm
 - Distance between hole axes 15 x 150 mm
- For panel mounting, use M4 screws (not supplied) with appropriate length to panel's thickness, and tighten to 0.8Nm +/-20% torque.

Remarks

- The return busbar and primary conductor elbow must be located at a minimum distance of 2.5 x the window length away from the transducer case.
- The temperature of the primary busbar can not exceed 90°C.
- Dynamic performances are the best with a primary busbar completely filling the primary aperture.
- This is a standard model. For different versions (supply voltages, different outputs, bidirectional measurements...), please contact us.