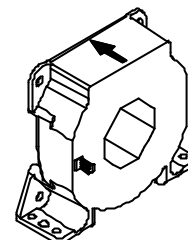


Current Transducer LF 1005-S

$I_{PN} = 1000 \text{ A}$

For the electronic measurement of currents : DC, AC, pulsed..., with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).



Electrical data

I_{PN}	Primary nominal r.m.s. current	1000	A					
I_P	Primary current, measuring range	0 .. 1500	A					
R_M	Measuring resistance @	$T_A = 70^\circ\text{C}$		$T_A = 85^\circ\text{C}$				
		$R_{M \min}$	$R_{M \max}$	$R_{M \min}$	$R_{M \max}$			
		with $\pm 15 \text{ V}$	@ $\pm 1000 \text{ A}_{\max}$	0	18	0	15	Ω
			@ $\pm 1200 \text{ A}_{\max}$	0	7	0	4	Ω
		with $\pm 24 \text{ V}$	@ $\pm 1000 \text{ A}_{\max}$	5	60.5	10	57.5	Ω
	@ $\pm 1500 \text{ A}_{\max}$	5	24	10	21	Ω		
I_{SN}	Secondary nominal r.m.s. current	200	m A					
K_N	Conversion ratio	1 : 5000						
V_C	Supply voltage ($\pm 5 \%$)	$\pm 15 \dots 24$	V					
I_C	Current consumption	20 (@ $\pm 24 \text{ V}$) + I_S	m A					
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	3	k V					

Features

- Closed loop (compensated) current transducer using the Hall effect
- Insulated plastic case recognized according to UL 94-V0.

Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$	± 0.4	%
e_L	Linearity	< 0.1	%
I_O	Offset current @ $I_P = 0$, $T_A = 25^\circ\text{C}$	Typ	Max
I_{OT}	Thermal drift of I_O - $10^\circ\text{C} \dots + 85^\circ\text{C}$	± 0.3	± 0.5 m A
t_r	Response time ¹⁾ @ 90 % of I_{PN}	< 1	μs
di/dt	di/dt accurately followed	> 100	A/ μs
f	Frequency bandwidth (- 1 dB)	DC .. 150	kHz

Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

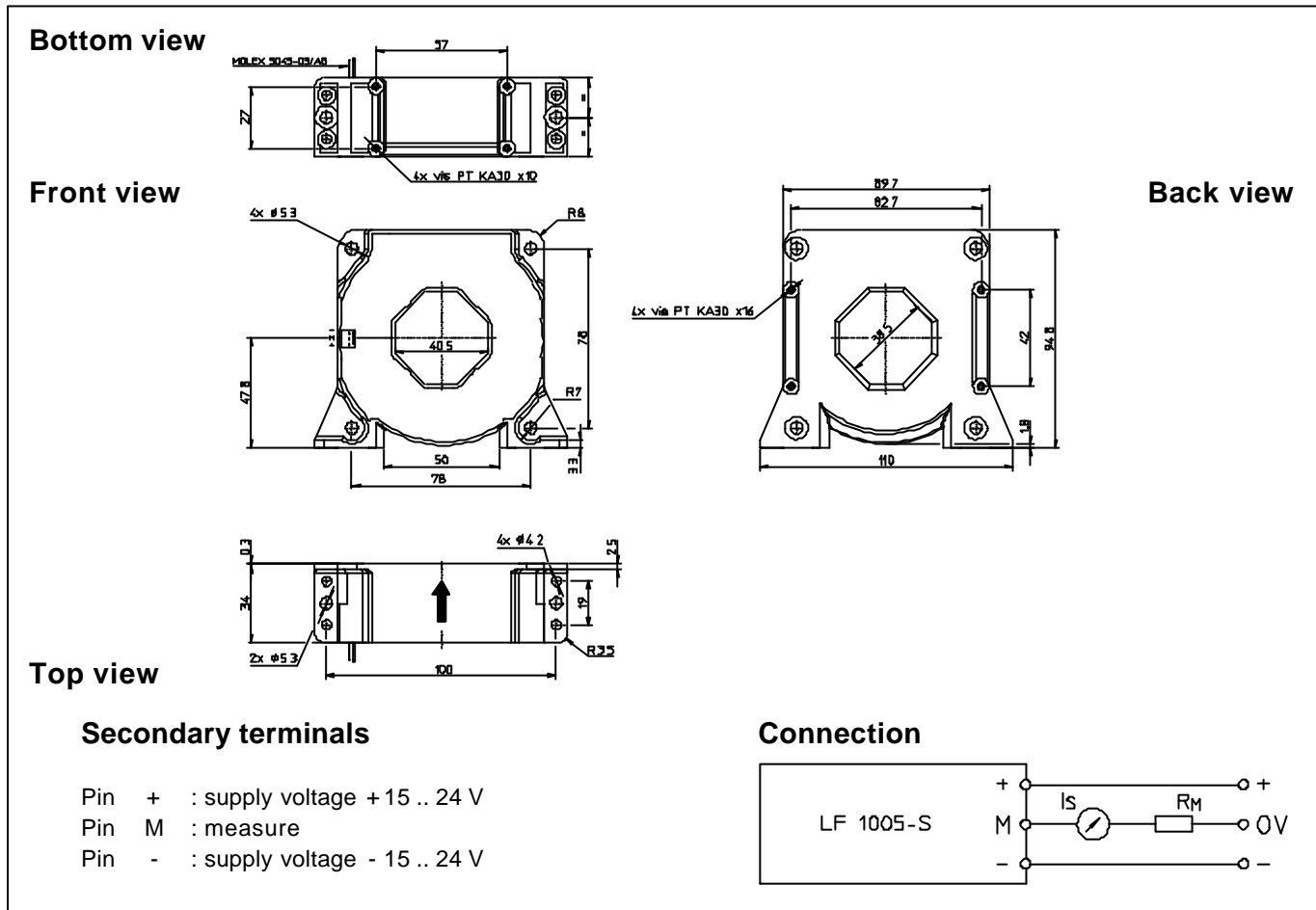
General data

T_A	Ambient operating temperature	- 10 .. + 85	$^\circ\text{C}$
T_S	Ambient storage temperature	- 25 .. + 100	$^\circ\text{C}$
R_S	Secondary coil resistance @	$T_A = 70^\circ\text{C}$	48 Ω
		$T_A = 85^\circ\text{C}$	51 Ω
m	Mass Standards ²⁾		500 g
			EN 50178

Notes : ¹⁾ With a di/dt of 100 A/ μs

²⁾ A list of corresponding tests is available.

Dimensions LF 1005-S (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.5 mm
 - Transducer fastening
Vertical position
Fastening torque, maxi or
Fastening torque, maxi or
Fastening torque, maxi
 - Transducer fastening
Horizontal position
Fastening torque, maxi or
Fastening torque, maxi
 - Primary through-hole
 - Connection of secondary
- | | |
|---|-------------------------------|
| 2 holes $\varnothing 5.3$ mm | 4 M5 steel screws |
| 4 holes $\varnothing 4.2$ mm | 4 M4 steel screws |
| 4 holes $\varnothing 2.25$ mm depth 10 mm | 4 x PT KA30 screws long 10 mm |
| 4 holes $\varnothing 5.3$ mm | 4 M5 steel screws |
| 4 holes $\varnothing 2.25$ mm depth 16 mm | 4 x PT KA30 screws long 16 mm |
| 40.5 x 40.5 mm | |
| Molex 5045-03/AG | |

Remarks

- I_s is positive when I_p flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 100°C.
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.