



# DATA SHEET

## Magnetic Fluxgate Current Sensor

**PN: CFB600ITN15D400**

**I<sub>PN</sub>=600A**

### Feature

- Closed loop (compensated) current transducer using an extremely accurate zero flux detector
- Electrostatic shield between primary and secondary circuit
- Status signal to indicate the transducer state
- LED indicator confirms normal operation
- For ultra-high precision measurement of current: DC, AC, pulsed...,with galvanic separation between primary and secondary.

### Advantages

- Very high accuracy
- Easy installation
- Extremely low temperature drift
- Wide frequency bandwidth
- High immunity to external fields
- Very good linearity
- No insertion losses
- Low noise on output signal
- Low noise feedback to primary c

### Applications

- Metrological verification and calibration
- Instrumentation (like power analyzer)
- Battery pack detection
- Power supply
- New energy
- Commercial measure
- Laboratory current measurement
- Medical devices (MRI)
- Electrical power control
- Ships and warships
- Rail transit



RoHS



### Electrical data: (Ta=25°C, Vc= ±15VDC)

Parmeter	Ref	CFB600ITN15D400
Primary side rated input	I <sub>PN DC</sub> (A)	±600
Primary side rated AC input	I <sub>PN</sub> (A)	424
Primary side max input	I <sub>PM</sub> (A)	110% I <sub>PN DC</sub> < I <sub>PM</sub> < 120% I <sub>PN DC</sub>
Turns ratio	N <sub>p</sub> /N <sub>s</sub> (T)	1:1500
Output current rms	I <sub>s</sub> (mA)	±400*I <sub>p</sub> /I <sub>PN</sub>
Secondary coil resistance	R <sub>s</sub> (Ω)	11
Measuring resistance	R <sub>M</sub> (Ω)	0-10Ω
Supply voltage	V <sub>C</sub> (V)	±15V ±5%
Accuracy	X <sub>G</sub> (%)	@DC,T=25°C <10ppm
Offset current	I <sub>OE</sub> (mA)	@I <sub>p</sub> =0,T=25°C < ±15ppm



**Cheemi Technology Co., Ltd**  
 Tel: 025-85996365 E-mail: [info@cheemi-tech.com](mailto:info@cheemi-tech.com) [www.cheemi-tech.com](http://www.cheemi-tech.com)  
 Add:3/F,Building6,Jingang Science and Technology Innovation Park,No.1 Kechuang Road, Qixia District, Nanjing City, Jiangsu Province, China.

Rev: V1.0

Temperature coefficient of I <sub>OE</sub>	@I <sub>P</sub> =0,10 ~ +50°C	< ±0.5ppm/K
Offset stability		0.8ppm/month
Linearity error ε <sub>r</sub> (%FS)		<1.5ppm
Di/dt accurately followed (A/μs)		> 100
Response time τ <sub>ra</sub> (μs)	@90% of I <sub>PN</sub>	< 1.0
Power consumption I <sub>C</sub> (mA)		200+I <sub>s</sub>
Bandwidth BW(KHZ)	@-3dB, 0.5% of I <sub>PN</sub>	DC-300
Insulation voltage V <sub>d</sub> (KV)	@50/60Hz, 1min, AC	5

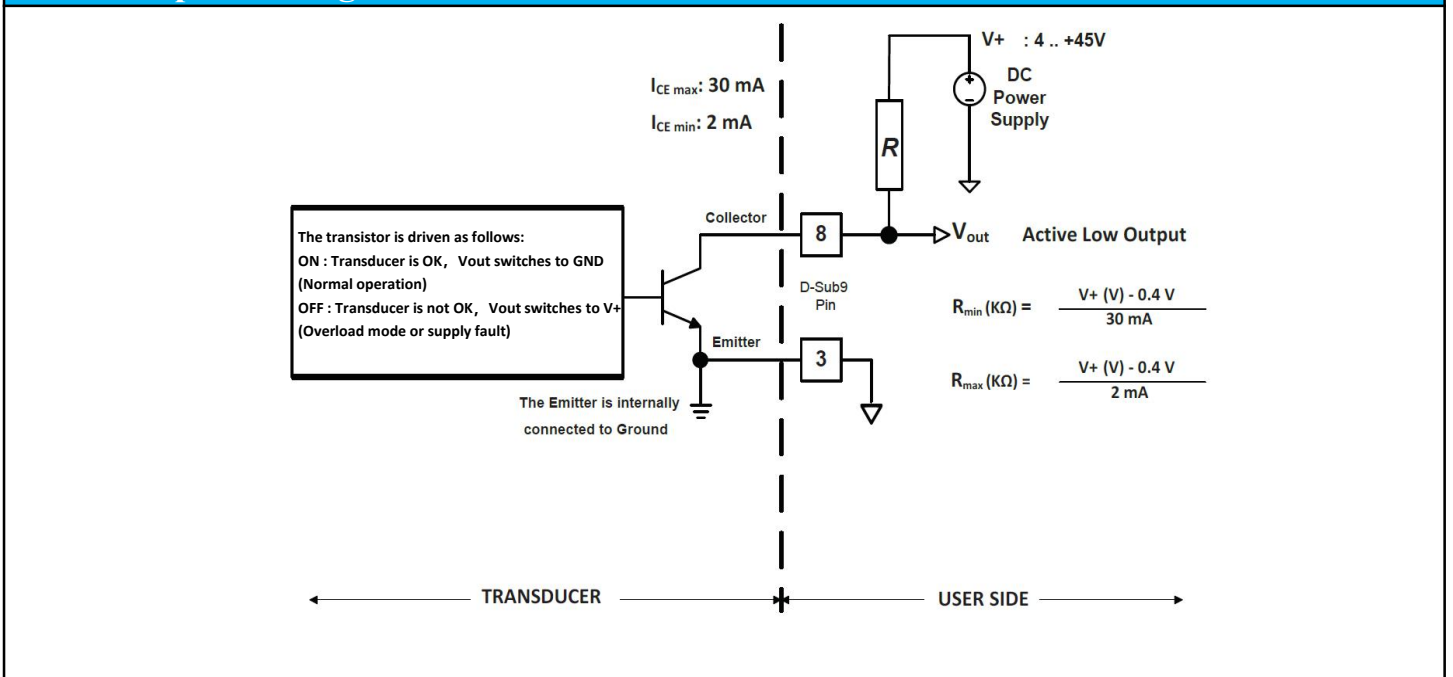
**General data:**

Parameter	Value
Operating temperature T <sub>A</sub> (°C)	10 ~ +50
Storage temperature T <sub>S</sub> (°C)	-20~ +85
Mass M(g)	
Plastic material	PBT G30/G15, UL94- V0;
Standards	EN 61000-6-2: 2005
	EN 61000-6-3: 2007
	EN 61010-1: 2010.

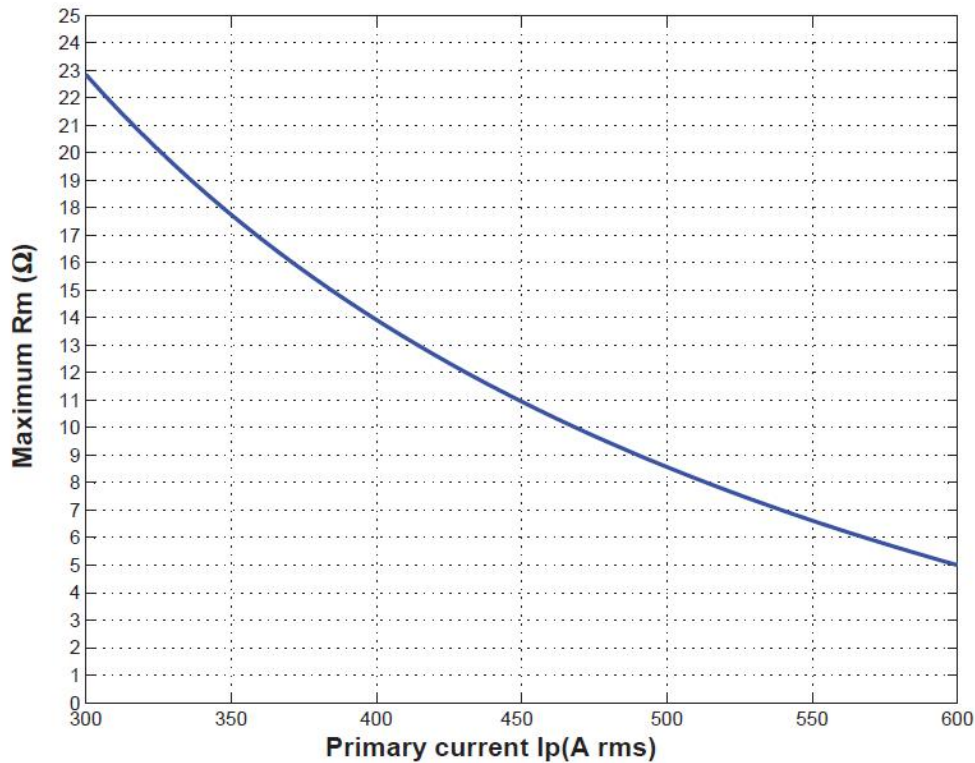
**Working status description:**

- After the equipment is powered on, the green indicator light is always on when the equipment works normally
  - When the current is overloaded or the power supply is abnormal, the green light is off:
- When the green light is not on, you should first check whether the power supply of the sensor is normal.
- When the power supply is normal, if the green indicator is off, the current sensor is in a non-zero flux state. If the primary current at this time exceeds the specified range of the sensor, the sensor enters the overload operation mode.
- When this happens, the transducer will shut down the measuring circuit and wait until the primary current is near zero.

**Interlock port wiring:**



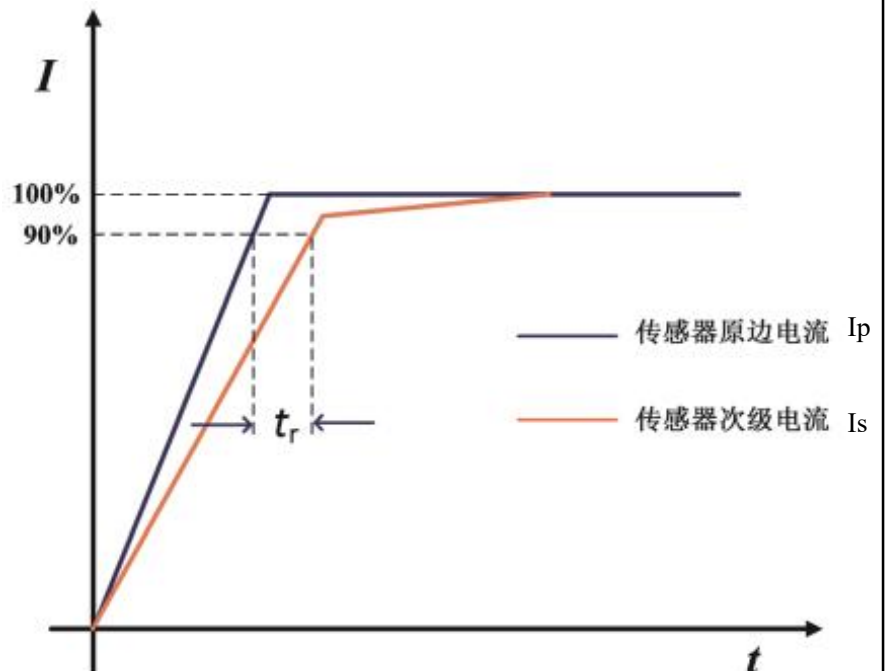
Instructions for using the load resistance:



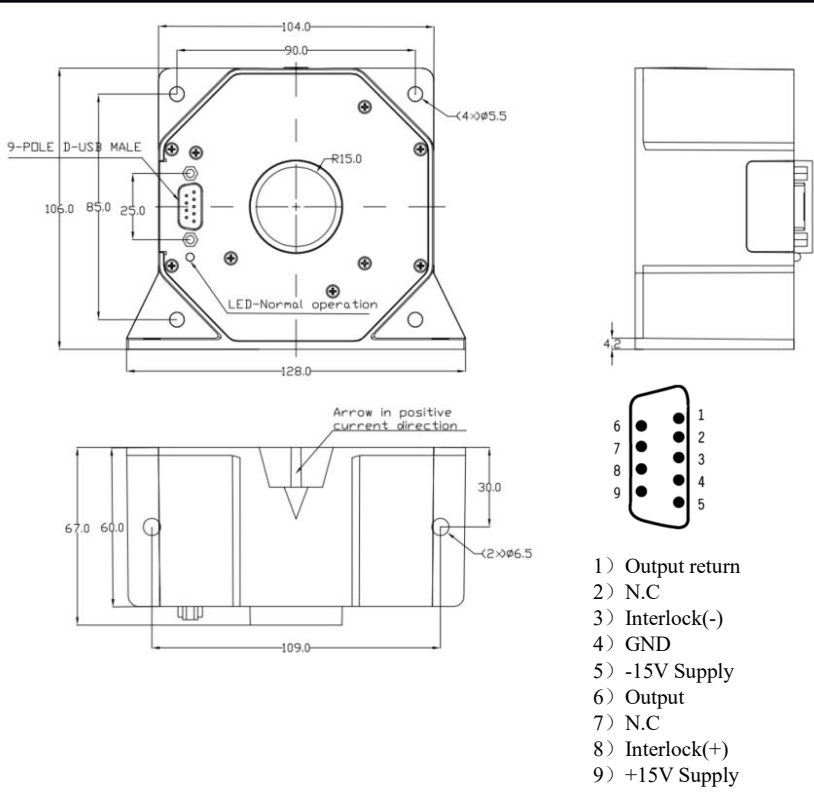
Response time:

The response time of the sensor refers to the speed of its secondary current establishment time. As shown in the figure on the right, the measurement of the secondary current of the sensor lags behind the primary current establishment time. When the sensor measured current reaches 90% of the nominal current value, the time difference obtained by comparing with the primary current establishment curve is the sensor response time.

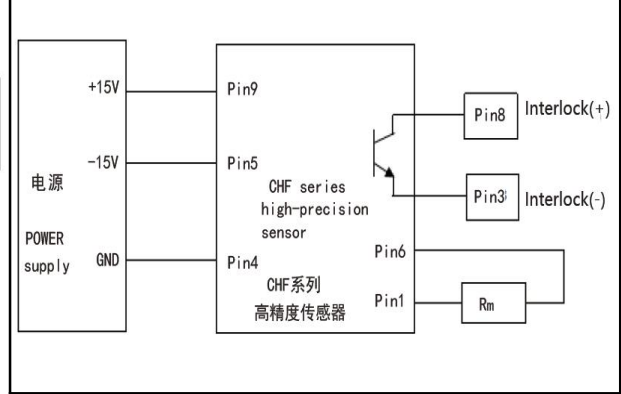
The faster the sensor response time, the better its performance.



**Dimensions(mm):**



**Connection**



**General tolerance**

General tolerance: <math>\pm 0.5\text{mm}</math>  
 Primary through-hole: 30mm

**Remarks:**

- Is is positive when  $I_p$  flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 50°C.
- The primary side current shall be powered after the sensor indicator is on; when power is off, remove the primary side first Current, and then disconnect the current sensor for power supply. Otherwise, the accuracy of the sensor may decrease or the sensor may be damaged.

**WARNING : Incorrect wiring may cause damage to the sensor.**

