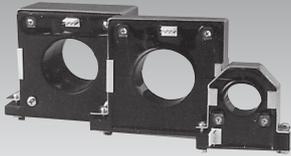


# Generic DC current sensor, split type

## Medium and large size split type for panel mounting corresponding to $\pm 15V$ power supply

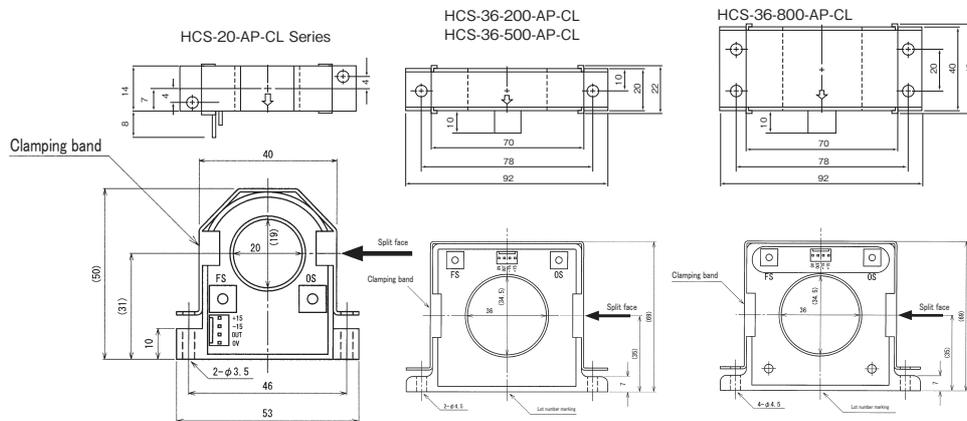


**Model** HCS-AP-CL series

**[Features]**

- Corresponding to  $\pm 15V$  control power supply
- Possible to discriminate the direction by  $0 \pm 4V$  output
- Possible to measure with isolation
- High reliability with sensor and amplifier integral structure
- Possible to measure until bandwidth of DC  $\sim 20kHz$  high frequency (In the case of use with high frequency, there is the case not to use until the rating current)
- High speed response within  $3 \mu s$

**[Outline drawing]**



This product needs  $\pm 15V$  ( $+15V$  and  $-15V$  DC bi-polar power supply) as control power supply. Even though the case of current detection of only plus direction,  $\pm 15V$  needs. In any case, it is not operated with only  $+15V$ .

**[Specification]**

Model	HCS-20- (Rating current) -AP-CL						HCS-36- (Rating current) -AP-CL		
	$\pm 10A$	$\pm 20A$	$\pm 50A$	$\pm 100A$	$\pm 150A$	$\pm 200A$	$\pm 200A$	$\pm 500A$	$\pm 800A$
Rating current (FS)	$\pm 10A$	$\pm 20A$	$\pm 50A$	$\pm 100A$	$\pm 150A$	$\pm 200A$	$\pm 200A$	$\pm 500A$	$\pm 800A$
Maximum current	$\pm 25A$	$\pm 50A$	$\pm 125A$	$\pm 250A$	$\pm 375A$	$\pm 500A$	$\pm 500A$	$\pm 1250A$	$\pm 2000A$
Output voltage	$\pm 4V$ / Rating current, $\pm 10V$ / Maximum current (Recommended load resistor $\geq 10k \Omega$ )								
Residual voltage	Within $\pm 100mV$ (no load)			Within $\pm 50mV$ (no load)		Within $\pm 20mV$ (no load)			
Noise level	Less than $10mV_{p-p}$ (no load)								
Accuracy	Within $\pm 2\%FS$			Within $\pm 1\%FS$					
Linearity	Within $\pm 2\%FS$			Within $\pm 1\%FS$					
Hysteresis(FS $\rightarrow$ 0)	Within $\pm 50mV$		Within $\pm 25mV$		Within $\pm 15mV$				
Response time	Less than $3 \mu s$ (at $di/dt = FS/2 \mu s$ )								
Output voltage temperature coefficient	$\pm 0.4\%/^{\circ}C$ typ			$\pm 0.1\%/^{\circ}C$ typ					
Residual voltage temperature coefficient	$\pm 4mV/^{\circ}C$ typ		$\pm 2mV/^{\circ}C$ typ		$\pm 1mV/^{\circ}C$ typ		$\pm 0.5mV/^{\circ}C$ typ		$\pm 0.3mV/^{\circ}C$ typ
Power supply	DC $\pm 15V \pm 5\%$ ( $25mA$ typ) bi-polar power supply								
Withstand voltage	AC2500V(50/60Hz), 1min (Aperture-output terminal in a lump)								
Insulation resistance	DC500V, $\geq 500M \Omega$ (Aperture-output terminal in a lump)								
Operating temperature	$-10^{\circ}C \sim +60^{\circ}C$ , $\leq 85\%RH$ , no condensation								
Storage temperature	$-15^{\circ}C \sim +65^{\circ}C$ , $\leq 85\%RH$ , no condensation								
Internal adjustment function	FS: Calibration for maximum output, OS: Calibration for zero point without load (Calibrated at the time of delivery)								
Output connector	5045-04 (Molex)								
Screw torque	0.3N · m						0.7N · m		
Mass	approximately 55g						approximately 220g	approximately 550g	

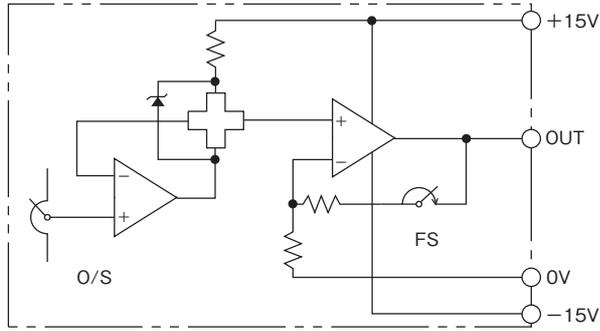
- [Remark]**
- (1) After overcurrent more than rating current, offset drift occur by proportional to that current, with hysteresis of core.
  - (2) Recommend to use more than 5% of nominal for practical range, because output includes various variation factors.
  - (3) Do not beyond rating current for continuous use
  - (4) There is possibility of heating by core loss for the application of high frequency and high current. Please check by contacting us.

$T_a = 25^{\circ}C$

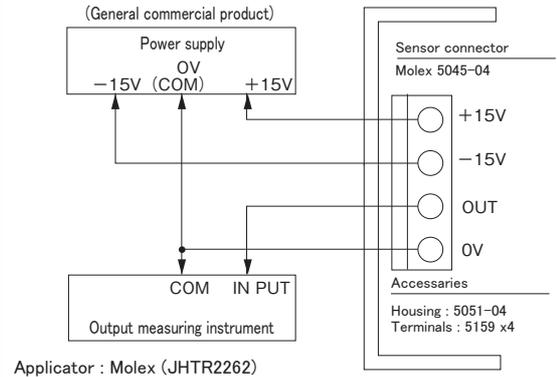
DC current sensor

HCS-AP-CL series typical characteristic (HCS-20-20-AP-CL)

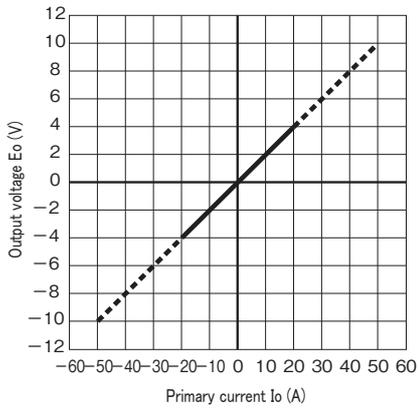
[Circuit diagram]



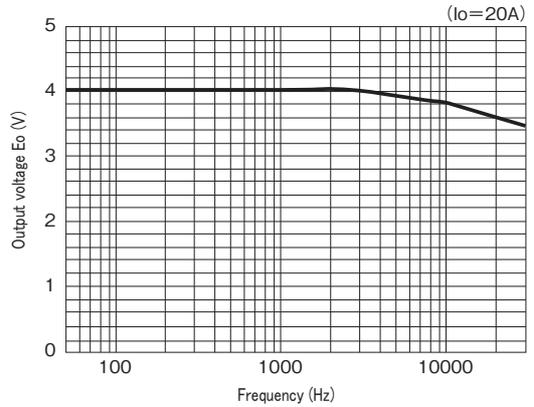
[Connection]



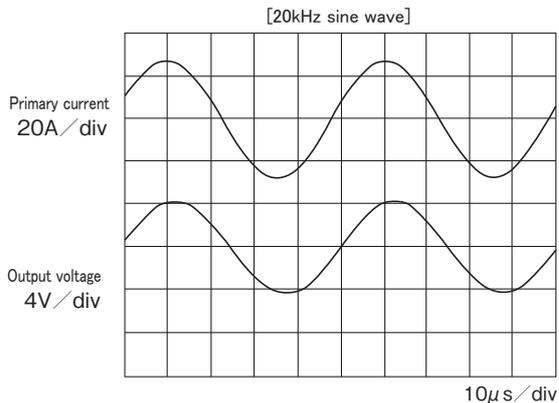
[Output voltage characteristic]



[Frequency characteristic]



[Output waveform] -1



[Output waveform] -2

