

Generic DC current sensor, penetration type

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

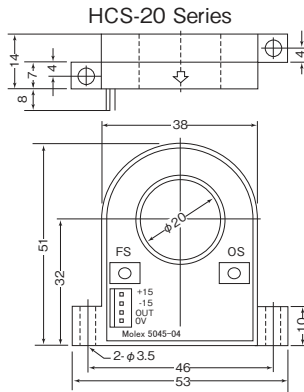


Model HCS-AP series

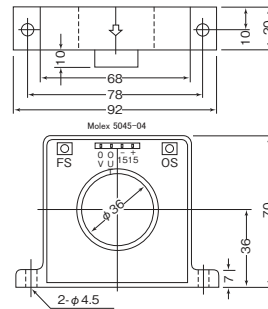
[Features]

- 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 $3 \mu s$

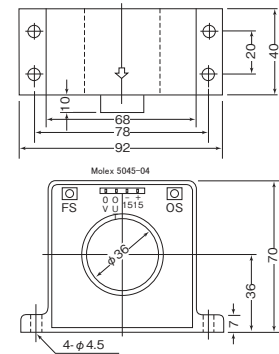
[Outline drawing]



HCS-36-200-AP
HCS-36-500-AP



HCS-36-800-AP



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]

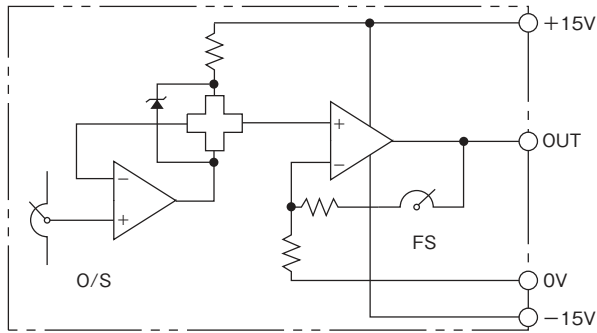
Model	HCS-20- (Rating current) -AP						HCS-36- (Rating current) -AP			
	$\pm 10A$	$\pm 20A$	$\pm 50A$	$\pm 100A$	$\pm 150A$	$\pm 200A$	$\pm 200A$	$\pm 500A$	$\pm 800A$	
Rating current (FS)	$\pm 10A$	$\pm 20A$	$\pm 50A$	$\pm 100A$	$\pm 150A$	$\pm 200A$	$\pm 200A$	$\pm 500A$	$\pm 800A$	
Maximum current	$\pm 25A$	$\pm 50A$	$\pm 125A$	$\pm 250A$	$\pm 375A$	$\pm 500A$	$\pm 500A$	$\pm 1250A$	$\pm 2000A$	
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 40g						approximately 120g	approximately 190g	approximately 300g	

- [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.

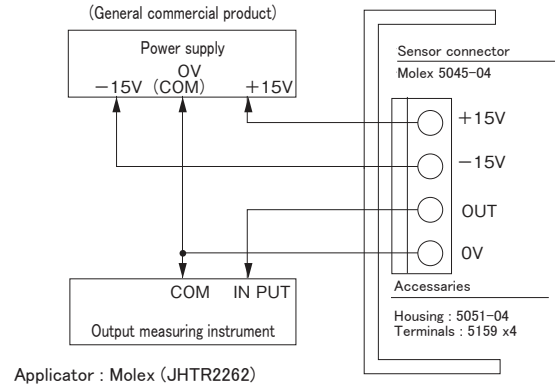
$T_a=25^{\circ}C$

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

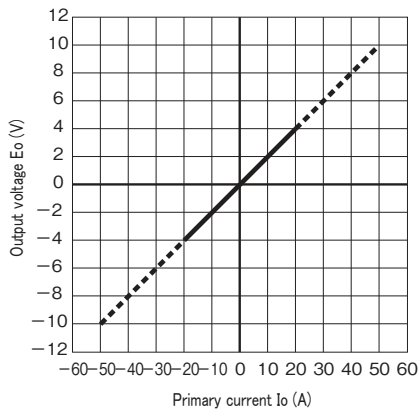
[Circuit diagram]



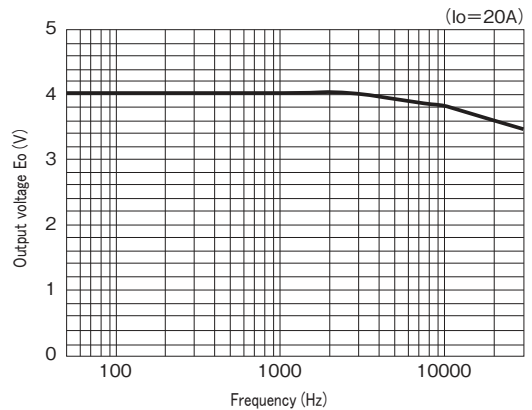
[Connection]



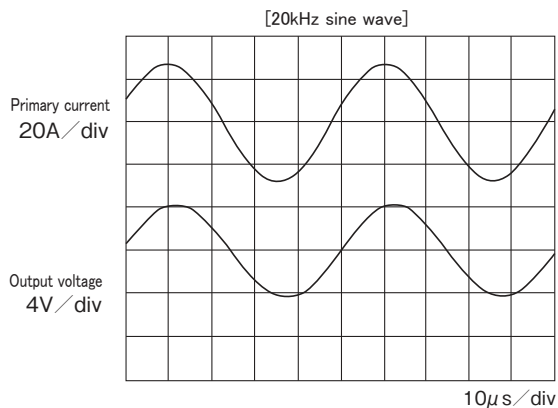
[Output voltage characteristic]



[Frequency characteristic]



[Output waveform] -1



[Output waveform] -2

