



Hall Effect Current Sensors S20S200D15M1

Features:

- Closed Loop type
- Voltage or current output
- Panel mounting
- JST connector
- Insulated plastic case according to UL94V0

Advantage:

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Wide frequency bandwidth
- No insertion loss
- High Immunity To External Interference
- Optimised response time
- Current overload capability

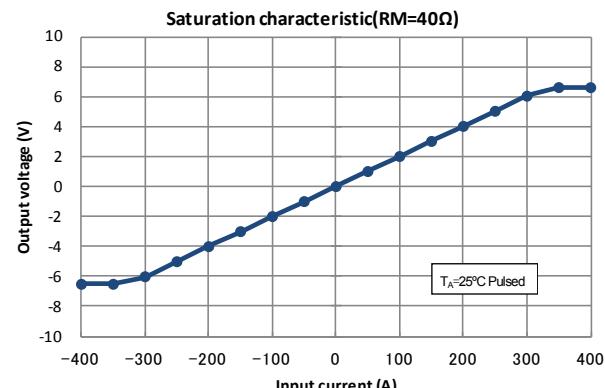
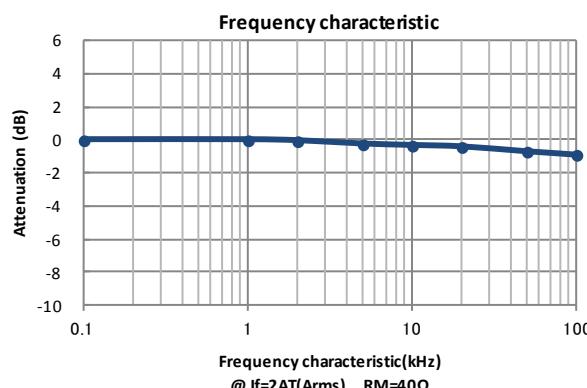
Specifications

 $T_A=25^\circ\text{C}, V_{CC}=\pm 15\text{V}$

Parameter	Symbol	S20S200D15M1	
Primary nominal current	I_f	200A	300A
Maximum current ¹ @70°C $V_{CC}=\pm 15\text{V}$	I_{fmax}	$\pm 300\text{A}$ (at $R_M=30\Omega$)	
Measurement resistance @70°C	R_M	5Ω~35Ω (at $V_{CC} = \pm 12\text{V}$)	9Ω~13Ω (at $V_{CC} = \pm 12\text{V}$)
		25Ω~65Ω (at $V_{CC} = \pm 15\text{V}$)	29Ω~33Ω (at $V_{CC} = \pm 15\text{V}$)
Conversion ratio	K_N	1 : 2000	
Rated output current	I_o	100mA	150mA
Output current accuracy ² (at I_f)	X	$ I_o \pm 1\%$	
Offset current ³ (at $I_f=0\text{A}$)	I_{of}	$\leq \pm 0.5\text{mA}$	
Output linearity ² (0A~ I_f)	ε_L	$\leq \pm 0.25\%$ (at I_f)	
Power supply voltage ¹	V_{CC}	$\pm 12\text{V} .. \pm 15\text{V} \pm 5\%$	
Consumption current	I_{CC}	$\leq \pm 16\text{mA}$ (Output current is not included)	
Response time ⁴	t_r	$\leq 1\mu\text{s}$ (at $dI/dt = 100\text{A} / \mu\text{s}$)	
Thermal drift of gain ⁵	T_{clo}	$\leq \pm 0.02\%/\text{°C}$ (at $T_A = -5\text{°C} \sim +70\text{°C}$)	
Thermal drift of offset current	T_{clof}	$\leq \pm 0.012\text{mA}/\text{°C}$ (at $T_A = -5\text{°C} \sim +70\text{°C}$)	
Hysteresis error	I_{OH}	$\leq 0.3\text{mA}$ (at $I_f=0\text{A} \rightarrow I_f \rightarrow 0\text{A}$)	
Insulation voltage	V_d	AC2500V, for 1minute (sensing current 0.5mA), inside of through hole \Leftrightarrow terminal	
Insulation resistance	R_{IS}	$\geq 500\text{M}\Omega$ (at DC500V), inside of through hole \Leftrightarrow terminal	
Secondary coil resistance	R_s	33Ω (at $T_A=70\text{°C}$)	
Ambient operation temperature	T_A	$-20\text{°C} \sim +70\text{°C}$	
Ambient storage temperature	T_s	$-20\text{°C} \sim +85\text{°C}$	

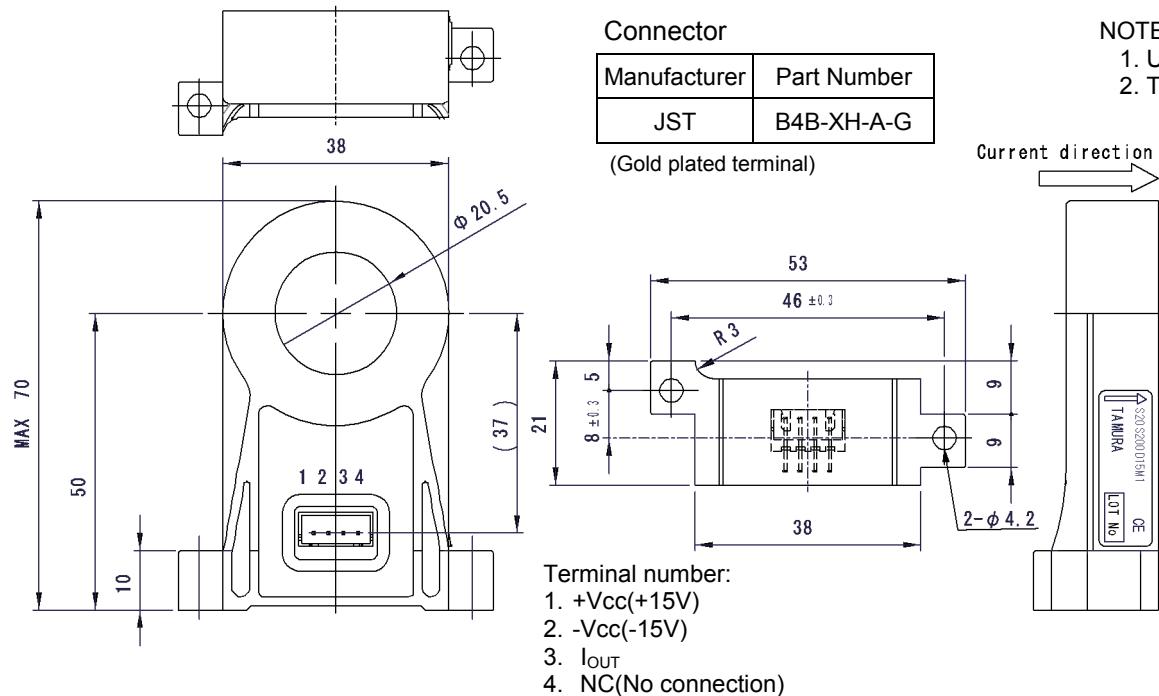
¹ Maximum current is restricted by V_{CC} — ² Without offset current— ³ After removal of core hysteresis— ⁴ Time between 90% input current full scale and 90% of sensor output full scale — ⁵ Without Thermal drift of offset current

Electrical Performances

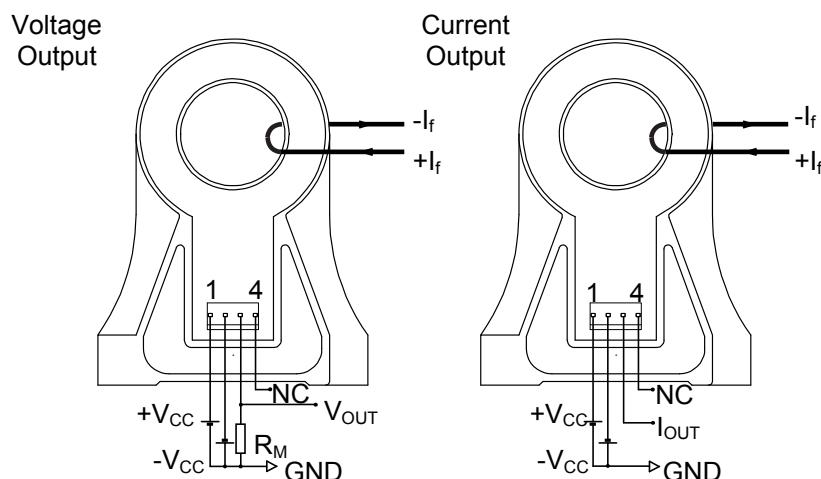


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Mechanical dimensions



Electrical connection diagram



@ $I_f=200A$ & $V_{CC}=\pm 15V$

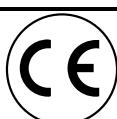
$25\Omega \leq R_M \leq 65\Omega$

@ $I_f=300A$ & $V_{CC}=\pm 15V$

$29\Omega \leq R_M \leq 33\Omega$

Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet
46g	50	200	2400



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Tamura:

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