

HYBRID CONTROL SYSTEM

SERVICE DATA

031RY-01

<p>Inverter Standard</p>	<p>Power switch ON (IG) A2 (GIVA) – A16 (GINV) A3 (GIVB) – A16 (GINV) A4 (GUU) – A16 (GINV) A5 (GVU) – A16 (GINV) A6 (GWU) – A16 (GINV) A7 (MIVA) – A16 (GINV) A8 (MIVB) – A16 (GINV) A9 (MUU) – A16 (GINV) A10 (MVU) – A16 (GINV) A11 (MWU) – A16 (GINV) A12 (VH) – A16 (GINV) A13 (CPWM) – A32 (GCNV) A14 (GSDN) – A32 (GCNV) A15 (VL) – A32 (GCNV) A16 (GINV) – C2 (GND) A18 (GIWA) – A16 (GINV) A19 (GIWB) – A16 (GINV) A20 (CT) – A16 (GINV) A21 (GIVT) – A16 (GINV) A22 (GFIV) – A16 (GINV) A23 (MIWA) – A16 (GINV) A24 (MIWB) – A16 (GINV) A25 (MSDN) – A16 (GINV) A26 (MIVT) – A16 (GINV) A27 (MFIV) – A16 (GINV) A28 (OVH) – A16 (GINV) A29 (CSDN) – A32 (GCNV) A30 (FCV) – A32 (GCNV) A31 (OVL) – A32 (GCNV) A32 (GCNV) – C2 (GND) B1 (ILK) – body ground C1 (IGCT) – C2 (GND) C2 (GND) – body ground</p>	<p>Approximately 0 V Approximately 0 V Approximately 14 to 16 V Approximately 14 to 16 V Approximately 14 to 16 V Approximately 0 V Approximately 0 V Approximately 14 to 16 V Approximately 14 to 16 V Approximately 14 to 16 V Approximately 0.5 V Approximately 0 V Approximately 2 to 4.5 V Approximately 0.5 V Approximately 0 V Approximately 0 V Approximately 0 V Approximately 0 V Approximately 2 to 4.5 V Approximately 5 to 8 V Approximately 0 V Approximately 0 V Approximately 0 V Approximately 2 to 4.5 V Approximately 5 to 8 V Approximately 5 to 8 V Approximately 0 V Approximately 13.5 to 16.5 V Approximately 13.5 to 16.5 V Approximately 0 V Below 1 Ω Approximately 8 to 16 V Below 1 Ω</p>
<p>Converter Operation</p>	<p>"READY" lamp ON OFF</p>	<p>Auxiliary battery voltage 14 V 12 V</p>
<p>Out put current</p>		<p>Approximately 80A or less</p>
<p>Speed sensor (resolver) Standard</p>	<p>A1 (GCS) – A4 (GCSG) A2 (GSN) – A5 (GSNG) A3 (GRF) – A6 (GRFG) B1 (MRF) – B4 (MRFG) B2 (MSN) – B5 (MSNG) B3 (MCS) – B6 (MCSG)</p>	<p>12.6 to 16.8 Ω 12.6 to 16.8 Ω 7.65 to 10.2 Ω 7.65 to 10.2 Ω 12.6 to 16.8 Ω 12.6 to 16.8 Ω</p>
<p>Temperature sensor Standard</p>	<p>C1 (MMT) – C4 (MMTG) C3 (OMT) – C6 (OMTG)</p>	<p>87.3 to 110.5 kΩ at 10°C (50°F) 23.8 to 28.5 kΩ at 40°C (104°F) 87.3 to 110.5 kΩ at 10°C (50°F) 23.8 to 28.5 kΩ at 40°C (104°F)</p>

SERVICE SPECIFICATIONS – HYBRID CONTROL SYSTEM

Integration relay (IGCT Relay) HEV fuse (20A) Standard IGCT relay Standard	7J-1 – 7J-4 7J-1 – 7K-1 7J-2 – 7J-3 7J-4 – 7K-1	Below 1 Ω 10 kΩ or higher Below 1 Ω (Battery voltage is added between terminals 7J-2 and 7J-3) Below 1 Ω Below 1 Ω (Battery voltage is added between terminals 7J-2 and 7J-3) Below 1 Ω No continuity
Battery plug Standard	Install the service plug grip	No continuity Continuity
System main relay No. 1 Continuity Standard	Positive terminal – Negative terminal A1 (CONT1) – Terminal 5 A2 (CONT2) – B1 (CONT2) A3 (CONT3) – C1 (CONT3) B1 (GND) – GND terminal C2 (GND) – GND terminal	10 kΩ or higher Below 1 Ω (Apply voltage between the positive and negative terminals) Below 1 Ω Below 1 Ω Below 1 Ω Below 1 Ω
Resistance Standard	A1 (CONT1) – Terminal 5	70 to 160 Ω
System main relay No. 2 and 3 Continuity Standard	Positive terminal – Negative terminal	10 kΩ or higher Below 1 Ω (Apply voltage between the connector terminals)
Resistance Standard	Connector terminals	20 to 50 Ω
Battery current sensor Standard	Positive probe to terminal 1 (VIB) Negative probe to terminal 2 (GIB) Positive probe to terminal 2 (GIB) Negative probe to terminal 1 (VIB) Positive probe to terminal 1 (VIB) Negative probe to terminal 3 (IB) Positive probe to terminal 3 (IB) Negative probe to terminal 1 (VIB) 2 (GIB) – 3 (IB)	3.5 to 4.5 kΩ 5 to 7 kΩ 3.5 to 4.5 kΩ 5 to 7 kΩ 0.2 kΩ or less
System main resistor Standard		18 to 22 Ω
Battery blower relay No. 1 Standard	3 – 5	10 kΩ or higher Below 1 Ω (When battery voltage is applied to terminals 1 and 2)