HYBRID CONTROL SYSTEM

SERVICE DATA

031RW–01

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

Integration relay (IGCT Relay)		
HEV fuse (20A)		Below 1 Ω
Standard		
IGCT relay		
Standard	7J–1 – 7J–4	10 kΩ or higher
		Below 1 Ω
		(Battery voltage is added between terminals 7J–2 and 7J–3)
	7J–1 – 7K–1	Below 1 Ω
		Below 1 Ω
		(Battery voltage is added between terminals 7J–2 and 7J–3)
	7J–2 – 7J–3	Below 1 Ω
	7J–4 – 7K–1	10 kΩ or higher
Pattern select switch assy No. 1 (EV–drive mode switch)		
Standard	3 (T) – 4 (E)	
	Not pushing the switch	10 kΩ or higher
	Pushing the switch	Below 1 Ω
Battery plug		
Standard		10 kΩ or higher
	Install the service plug grip	Below 1 Ω
System main relay No. 1		
Continuity		
Standard	Positive terminal – Negative terminal	10 kΩ or higher
	A1 (CONT1) – Terminal 5	Below 1 Ω
		(Apply voltage between the positive and negative terminals)
	A2 (CONT2) – B1 (CONT2)	Below 1 Ω
	A3 (CONT3) – C1 (CONT3)	Below 1 Ω
	B1 (GND) – GND terminal	Below 1 Ω
	C2 (GND) – GND terminal	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)
Rosistance		
Standard	Connector terminals	20 to 50 Ω
Battery current sensor		
Standard	Positive probe to terminal 1 (VIB)	3.5 to 4.5 kΩ
	Negative probe to terminal 2 (GIB)	
	Positive probe to terminal 2 (GIB)	5 to 7 kΩ
	Negative probe to terminal 1 (VIB)	
	Positive probe to terminal 1 (VIB)	3.5 to 4.5 kΩ
	Negative probe to terminal 3 (IB)	
	Positive probe to terminal 3 (IB)	5 to 7 kΩ
	Negative probe to terminal 1 (VIB)	
	2 (GIB) – 3 (IB)	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)