






APPLICABLE STANDARD		IEC 61076-3-124			
RATING	Operating Temperature Range	-40°C to +85°C(95%RH max) (note1,2)	Storage Temperature Range	-30°C to +60°C(95%RH max) (note1)	
	Voltage	50 V AC / 60 V DC	Current	1.5 A/pin (all pin)	
				3 A/pin (pin No.1,2,6,7)	
SPECIFICATIONS					
ITEM	TEST METHOD		REQUIREMENTS		QT   AT
CONSTRUCTION					
General Examination	Examined visually and with a measuring instrument.		According to drawing.		X   X
Marking	Confirmed visually.		According to drawing.		X   X
ELECTRIC CHARACTERISTICS					
Contact Resistance	Measured at 100 mA max (DC or 1000 Hz).		Contact : 30 mΩ max. (note3) Shield : 100 mΩ max. (note3)	X	—
Insulation Resistance	Measured at 500 V DC.		500 MΩ min.	X	—
Voltage Proof	500 V DC applied for 1 min. Current leakage 2mA max.		No flashover or breakdown.	X	—
Insertion Loss	Measured in the range of 1 to 500 MHz.		0.02 √(f) dB max. (Whenever the formula results in a value less than 0.1 dB, the requirement shall revert to 0.1 dB.)	X	—
Return Loss	Measured in the range of 1 to 500 MHz.		68 – 20log(f) dB min. (Whenever the formula results in a value greater than 30 dB, the requirement shall revert to 30 dB.)	X	—
Near end Crosstalk	Measured in the range of 1 to 500 MHz.		94 – 20log(f) dB min. (1MHz to 250MHz) 46.04 – 30log(f/250) dB min. (250MHz to 500MHz) (Whenever the formula results in a value greater than 75 dB, the requirement shall revert to 75 dB.)	X	—
Far end crosstalk	Measured in the range of 1 to 500 MHz.		83.1 – 20log(f) dB min. (Whenever the formula results in a value greater than 75 dB, the requirement shall revert to 75 dB.)	X	—
Transverse Conversion Loss	Measured in the range of 1 to 500 MHz.		68 – 20log(f) dB min. (Whenever the formula results in a value greater than 50 dB, the requirement shall revert to 50 dB.)	X	—
Transverse Conversion Transfer Loss	Measured in the range of 1 to 500 MHz.		68 – 20log(f) dB min. (Whenever the formula results in a value greater than 50 dB, the requirement shall revert to 50 dB.)	X	—
MECHANICAL CHARACTERISTICS					
Insertion and Withdrawal Forces	A maximum rate of 50 mm/min. Measured by applicable connector.		Insertion force 25 N max. Withdrawal force 25 N max.	X	—
Mechanical Operation	5000 times insertions and extractions.  Mating speed : 10 mm/s max. Rest : 5s, min.(unmated)		1) Resistance: Contact : 80 mΩ max. (note3) Shield : 100 mΩ max. (note3) 2) No damage, cracks or looseness of parts.	X	—
<p>Note</p> <p>1. Non-condensing. 2. The operation temperature includes the temperature rise by current carrying</p> <p>3. The cable conductor resistance is not considered.</p> <p>4. Electrical characteristics are applicable to the contacts and shield except for contacts No. 3 and 6.</p>					
	COUNT	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE
△	18	DIS-E-00003730	MT.YASUDA	KI.KAGOTANI	20210317
REMARK			APPROVED	MN.KENJO	20191209
			CHECKED	KI.NAGANUMA	20191209
			DESIGNED	MT.YASUDA	20191209
			DRAWN	YK.MITSUISHI	20191209
Unless otherwise specified, refer to IEC 60512.					
Note QT:Qualification Test AT:Assurance Test X:Applicable Test			DRAWING NO.		ELC-129981-01-00
HRS	SPECIFICATION SHEET		PART NO.	IX31G-A-10S-CVL2(7.0)(01)	
	HIROSE ELECTRIC CO., LTD.		CODE NO.	CL0251-0069-0-01	△ 1/3

SPECIFICATIONS					
ITEM	TEST METHOD	REQUIREMENTS	QT	AT	
⚠ Vibration ,sinusoidal	Frequency 10 to 500 Hz 0.35 mm, 50 m/s <sup>2</sup> 2hrs in each of 3 mutually perpendicular axis. ⚠	1) No electrical discontinuity of 1μs. (note4) 2) No damage, cracks or looseness of parts.	X	—	
Fretting Corrosion	490 m/s <sup>2</sup> , 30 times/min at 1000 times. ⚠	1) No electrical discontinuity of 1μs. (note4) 2) No damage, cracks or looseness of parts.	X	—	
⚠ Mechanical Shock	Subject mated specimens to 300 m/s <sup>2</sup> half-sine shock pulses of 11 milliseconds duration, 3 shocks in both directions of 3 mutually perpendicular directions (totally 18 shocks) ⚠	1) No electrical discontinuity of 1μs. (note4) 2) Resistance: Contact : 80 mΩ max. (note4) Shield : 100 mΩ max. (note4) 3) No damage, cracks or looseness of parts.	X	—	
⚠ Effectiveness of the connector coupling device	Applying 80 N force for the mating axis direction in state in fitted with applicable connector.	No unlocking, damage, cracks or looseness of parts.	X	—	
⚠ Locking device mechanical operations	10000 cycles 20 cycles/min max	1) Insertion and Withdrawal Forces Insertion force 25 N max. Withdrawal force 25 N max. 2) No damage, cracks or looseness of parts.	X	—	
Wrenching Strength	Applying 25times of 30 N 1s for 2 axis direction on tip of plug case in state in fitted with applicable connector.	No damage, cracks or looseness of parts.	X	—	
ENVIRONMENTAL CHARACTERISTICS					
Rapid Change of Temperature ⚠	Subject mated specimens to 10 cycles between -55°C and 85°C with 30 minutes dwell at temp. extremes and 2 to 3 minutes transition between temperatures. ⚠	1) Voltage proof : 500 V DC applied for 1 min. Current leakage 2mA max. No flashover or breakdown. 2) Resistance: Contact : 80 mΩ max. (note3) Shield : 100 mΩ max. (note3) 3) Insulation resistance: 500 MΩ min. (at dry) 4) No damage, cracks or looseness of parts.	X	—	
Humidity / Temperature Cycling	Low temperature 25 °C; High temperature 65 °C; Cold sub-cycle - 10 °C; Relative humidity 93 % Duration 10 / each 24 h (IEC 60068-2-38,test Z / AD) ⚠	1) Voltage proof : 500 V DC applied for 1 min. Current leakage 2mA max. No flashover or breakdown. 2) Resistance: Contact : 80 mΩ max. (note3) Shield : 100 mΩ max. (note3) 3) Insulation resistance: 500 MΩ min. (at dry) 4) Insertion and Withdrawal Forces Insertion force 25 N max. Withdrawal force 25 N max. 5) No damage, cracks or looseness of parts.	X	—	
Damp Heat, Steady State	Subject mated specimens to a relative humidity of 93 % at a temperature of 40°C during 21 days. ⚠	1) Voltage proof : 500 V DC applied for 1 min. Current leakage 2mA max. No flashover or breakdown. 2) Resistance: Contact : 80 mΩ max. (note3) Shield : 100 mΩ max. (note3) 3) Insulation resistance: 500 MΩ min. (at dry) 4) Insertion and Withdrawal Forces Insertion force 25 N max. Withdrawal force 25 N max. 5) No damage, cracks or looseness of parts.	X	—	
Note QT:Qualification Test AT:Assurance Test X:Applicable Test		DRAWING NO.	ELC-129981-01-00		
<b>HRS</b>	SPECIFICATION SHEET	PART NO.	IX31G-A-10S-CVL2(7.0)(01)		
	HIROSE ELECTRIC CO., LTD.	CODE NO	CL0251-0069-0-01	⚠	2/3

SPECIFICATIONS					
ITEM	TEST METHOD		REQUIREMENTS	QT	AT
ENVIRONMENTAL CHARACTERISTICS					
Dry Heat	Subject to +85 ± 2 °C, 21 days. (mating applicable connector)		1) Voltage proof : 500 V DC applied for 1 min. Current leakage 2mA max. No flashover or breakdown. 2) Resistance: Contact : 80 mΩ max. (note3) Shield : 100 mΩ max. (note3) 3) Insulation resistance: 500 MΩ min. (at dry) 4) Insertion and Withdrawal Forces Insertion force 25 N max. Withdrawal force 25 N max. 5) No damage, cracks or looseness of parts.	X	—
Cold	Subject to -55 ± 3 °C, 10 days. (mating applicable connector)		1) Voltage proof : 500 V DC applied for 1 min. Current leakage 2mA max. No flashover or breakdown. 2) Resistance: Contact : 80 mΩ max. (note3) Shield : 100 mΩ max. (note3) 3) Insulation resistance: 500 MΩ min. (at dry) 4) Insertion and Withdrawal Forces Insertion force 25 N max. Withdrawal force 25 N max. 5) No damage, cracks or looseness of parts.	X	—
Corrosion Salt Mist	Subject to 5 % salt water, 35 ± 2 °C, 48h. (leave under unmated condition.)		No heavy corrosion of contacts.	X	—
Mixed Flowing Gas Corrosion	Test temperature : +25±1 °C, Relative humidity : 75±3 % H <sub>2</sub> S : 10±5 ppb, NO <sub>2</sub> : 200±50 ppb Cl <sub>2</sub> : 10±5 ppb, SO <sub>2</sub> : 200±20 ppb Leave the samples for 4 days with mated. The same is performed with unmated samples. (IEC 60512, method 4)		1) Resistance: Contact : 80 mΩ max. (note3) Shield : 100 mΩ max. (note3) 2) No damage, cracks or looseness of parts.	X	—
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