MICE details of environmental classification

MECHANICAL	M1	M2	M3	INDUSTRY SOLUTIONS
Peak acceleration	40 m/s-2	100 m/s-2	250 m/s-2	
Vibration: Displacement amplitude (2 Hz to 9 Hz)	1.5 mm	7.0 mm	15.0 mm	
Vibration: Acceleration amplitude (9 Hz to 500 Hz)	5 m/s-2	20 m/s-2	50 m/s-2	
Tensile force	Installation Specific See IEC 61918	Installation Specific See IEC 61918	Installation Specific See IEC 61918	Specified well by manufacturers
Crush	45 N over 25 mm (linear) min	1100 N over 150 mm (linear) min.	2200 N over 150 mm (linear) min.	Specified well by manufacturers
Impact	1 J	10 J	30 J	
Bending, flexing and torsion	Installation Specific See IEC 61918	Installation Specific See IEC 61918	Installation Specific See IEC 61918	Thermo Plastic Elastomer- TPE and Fluorinateed Ethylene Propylene- FEP insulators and jackets
INGRESS	**I1**	**I2**	**I3**	**INDUSTRY SOLUTIONS**
Particulate ingress (dia. max.)	12.5 µm	50 µm	50 µm	
Immersion	None	Intermittent liquid jet ≤ 12.5 l/min ≥ 6.3 mm jet > 2.5 m distance	Intermittent liquid jet ≤ 12.5 l/min ≥ 6.3 mm jet > 2.5 m distance and immersion (≤1 m for <=30 minutes	NEMA ratings
CLIMATIC/CHEMICAL	**C1**	**C2**	**C3**	**INDUSTRY SOLUTIONS**
Ambient temperature	-10 °C to +60 °C	-25 °C to +70 °C	-40 °C to +70 °C	**Specified well by manufacturers**
Rate of change of temperature	0.1 °C per minute	1.0 °C per minute	3.0 °C per minute	
Humidity	5 % to 85 % (non-condensing)	5 % to 95 % (non-condensing)	5 % to 95 % (non-condensing)	**Specified well by manufacturers**
Solar radiation	700 Wm-2	1 120 Wm-2	1 120 Wm-2	**UV resistant cables are common**
Liquid pollution Contaminants	Concentration x 10-6	Concentration x 10-6	Concentration x 10-6	
Sodium chloride (salt/sea water) 0 < 0,3 < 0,3	0	< 0,3	< 0,3	**Chemical Resistance Jackets with Fluorinated ethylene propylene- FEP**
Oil (dry-air concentration)	0	< 0,005	< 0,5	
ELECTROMAGNETIC	**E1**	**E2**	**E3**	**INDUSTRY SOLUTIONS**
Electrostatic discharge – Contact (0,667 µC)	4 kV	4 kV	4 kV	**STP, Fiber, Metal Channel, Separation**
Electrostatic discharge – Air (0,132 µC)	8 kV	8 kV	8 kV	**STP, Fiber, Metal Channel, Separation**
Radiated RF - AM	3 V/m at (80 to 1000 MHz) 3 V/m at (1400 to 2000 MHz) 1 V/m at (2000 to 2700 MHz)	3 V/m at (80 to 1,000 MHz) 3 V/m at (1400 to 2000 MHz) 1 V/m at (2000 to 2700 MHz)	10 V/m at z (80 to 1,000 MHz) 3 V/m at (1400 to 2000 MHz) 1 V/m at (2000 to 2700 MHz)	**STP, Fiber, Metal Channel, Separation**
Conducted RF	3 V at 150 kHz to 80 MHz	3 V at 150 kHz to 80 MHz	10 V at 150 kHz to 80 MHz	**STP, Fiber, Metal Channel, Separation**
EFT/B (comms)	500 V	1 kV	1 kV	**STP, Fiber, Metal Channel, Separation**
Surge (transient ground potential difference) - signal, line to earth	500 V	1 kV	1 kV	**STP, Fiber, Metal Channel, Separation**
Magnetic Field (50/60 Hz)	1 Am-1	3 Am-1	30 Am-1	**STP, Fiber, Metal Channel, Separation**
Magnetic Field (60 Hz to 20,000 Hz)	ffs	ffs	ffs	**STP, Fiber, Metal Channel, Separation**

Source：Designing Industrial Networks Using ANSI/TIA-1005-A (BICSI，ICT TODAY)