

Cable to Panel Connectors, Single Piece Insulators

- Crimp
- Pin size/current 1.5mm/13A
- Pitch: 4.6 mm signal
- No. of contacts / signal: 32, 50, 74 and 110
- Quick locking mechanism and insulator castellation
- Front or rear mounted
- Cable to cable apps

Technical Characteristics

Parameter	Level	Unit
	Signal Connector	
Voltage rating	500	V (DC or AC peak)
Current rating	13	Amps
Contact Resistance	2.5 max	Milliohms
Dielectric withstand voltage	3	kV
Insulation resistance	5	Gigohms (at 500V DC)
Creepage	7.6	mm
Clearance	3.1	mm
	BS EN 50124-1 – meets applicable requirements	
	BS EN 50178 – meets applicable requirements	
	IEC 664-1 – meets applicable requirements	

Parameter	Level	Unit
	Signal Connector	
Mating force per contact	1.1	Newtons (x 102 = grams approx)
Endurance:		
Connector and contacts	2000 minimum	Mating cycles
Quarter turn lock mechanism	250 minimum	Locking cycles
Contact retention:		
Pin contact	125	Newtons
Socket contact	75	Newtons
Mass:		
Size 1 plug	66	Grams
Size 1 receptacle	134	
Size 2 plug	102	
Size 2 receptacle	205	
Size 3 plug	150	
Size 3 receptacle	305	
Size 4 plug	220	
Size 4 receptacle	450	
Torque for fixing screws	0.75 max	Nm

Environmental performance

Parameter	Level	Unit
Temperature range	-40 to +100	Degrees C
Humidity	90 to 95%, 10 cycles, 100 Megohms min IR	RH at 40 deg C
Vibration	MIL-STD-1344, method 2005 Condition VI Letter J BS EN 61373 – meets applicable requirements	
Shock	MIL-STD-1344, method 2004 Conditions D	
Reaction to Fire:		
Smoke test	BS 6853 - meets applicable requirements	
Toxic fume	BS 6853 - meets applicable requirements	
Oxygen index	BS2872 55%	
Flammability (insulator)	UL94 V0 (1.6mm) V2 (0.8mm)	
Glow wire temp (insulator)	960 (1mm / 3mm)	Degrees C
	NF 16-101, .classification 13 / F1	
Resistance to fluids		

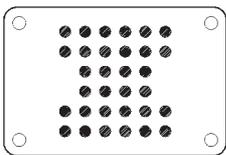
TOOLING

Contact	Crimp tool	Crimp positioner	Contact extraction tool
1.5mm contact (Signal range)	FT8	SH 462	HFR-525

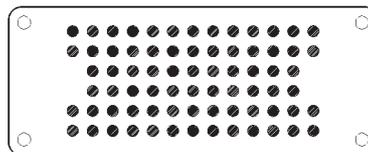
Outline drawings

Contact configuration

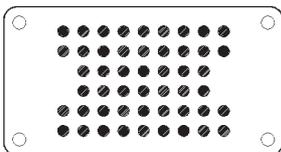
Signal Range



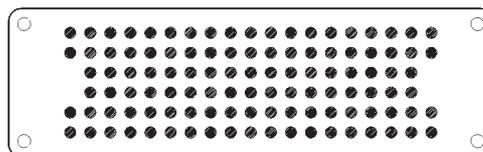
Size 1 -32 ways



Size 3 -74 ways



Size 2 -50 ways

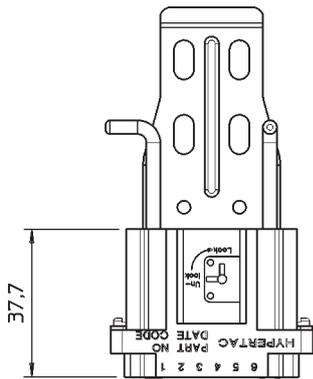
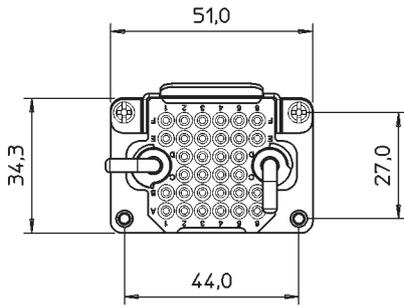


Size 4 -110 ways

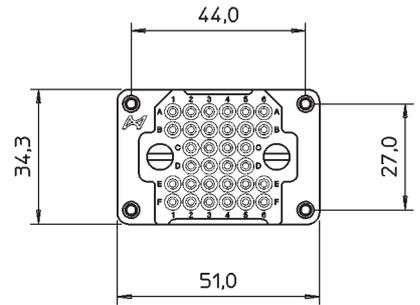
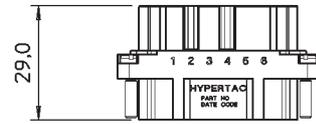
Dimensions are in mm

Connector range

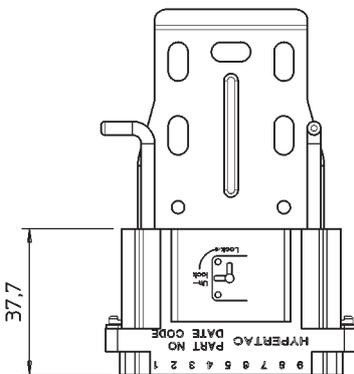
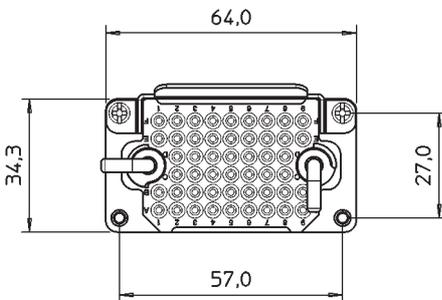
Receptacle, Size 1
32 Way, Signal



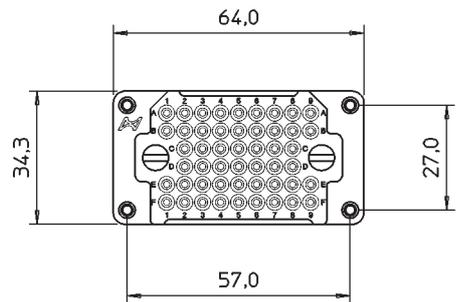
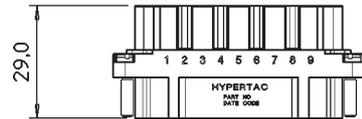
Plug, Size 1
32 Way, Signal



Receptacle, Size 2
50 Way, Signal



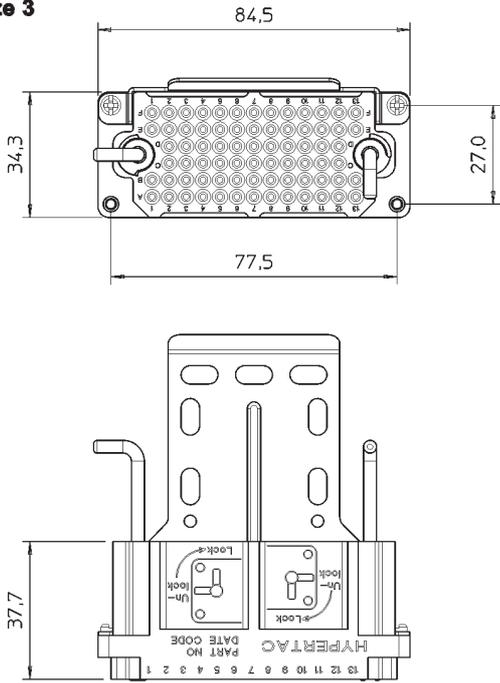
Plug, Size 2
50 Way, Signal



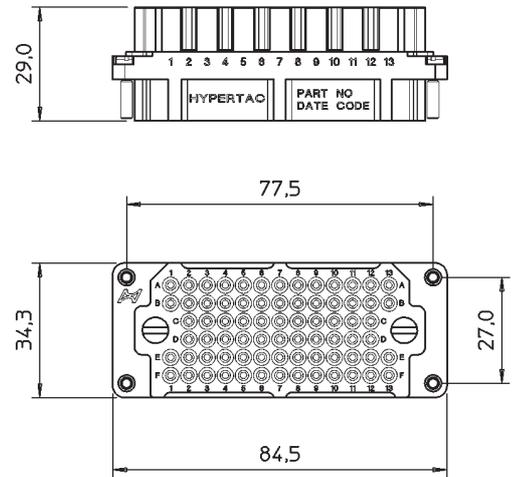
Dimensions are in mm

Connector range

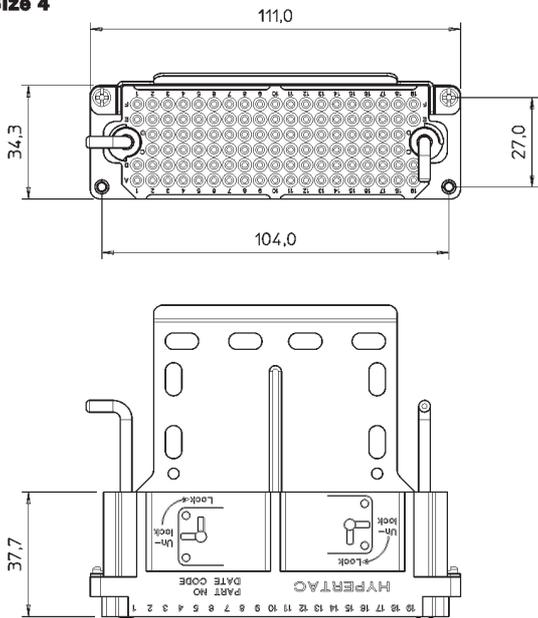
Receptacle, Size 3
74 Way, Signal



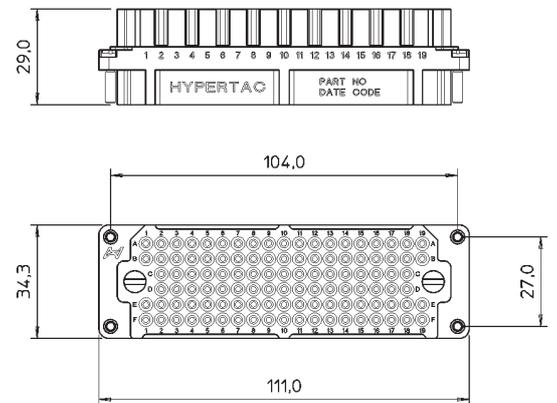
Plug, Size 3
74 Way, Signal



Receptacle, Size 4
110 Way, Signal

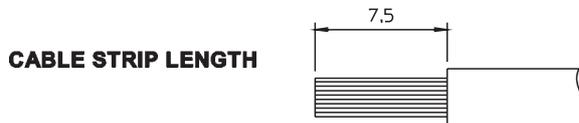
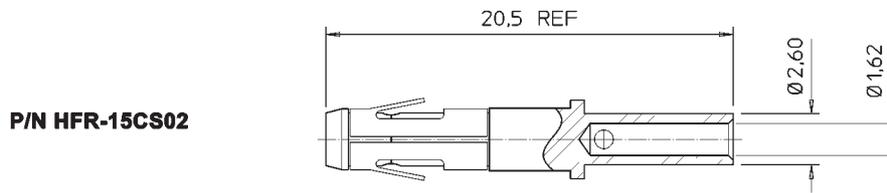
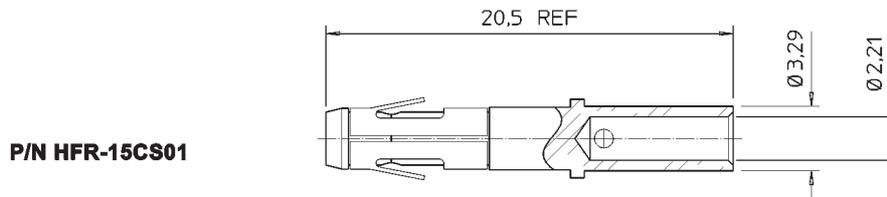
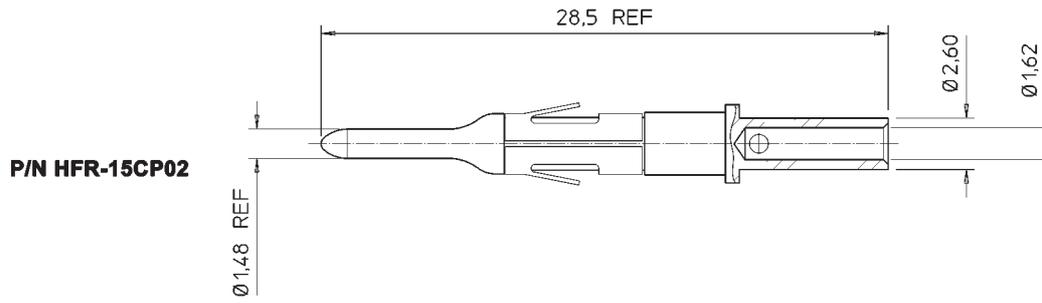
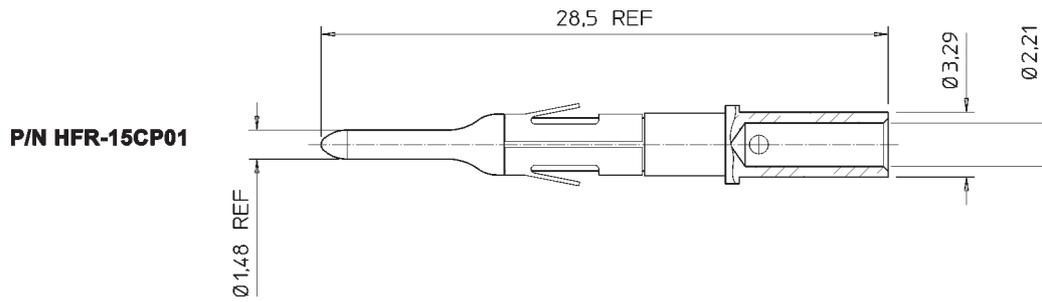


Plug, Size 4
110 Way, Signal

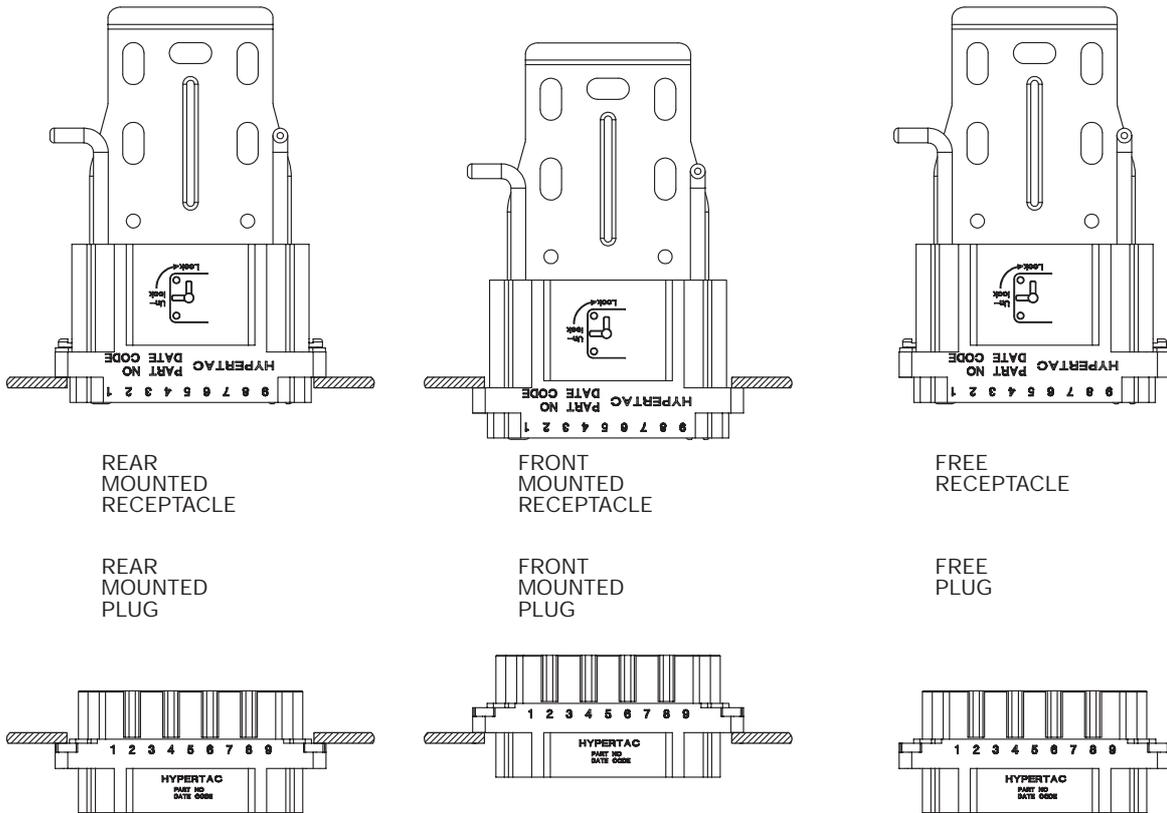


Dimensions are in mm

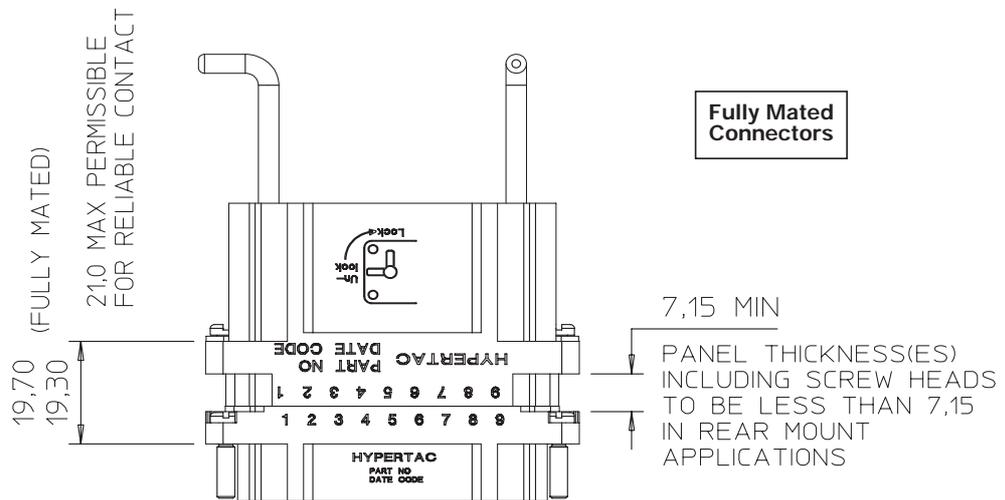
1.5mm contacts for signal connectors



Connector mounting options

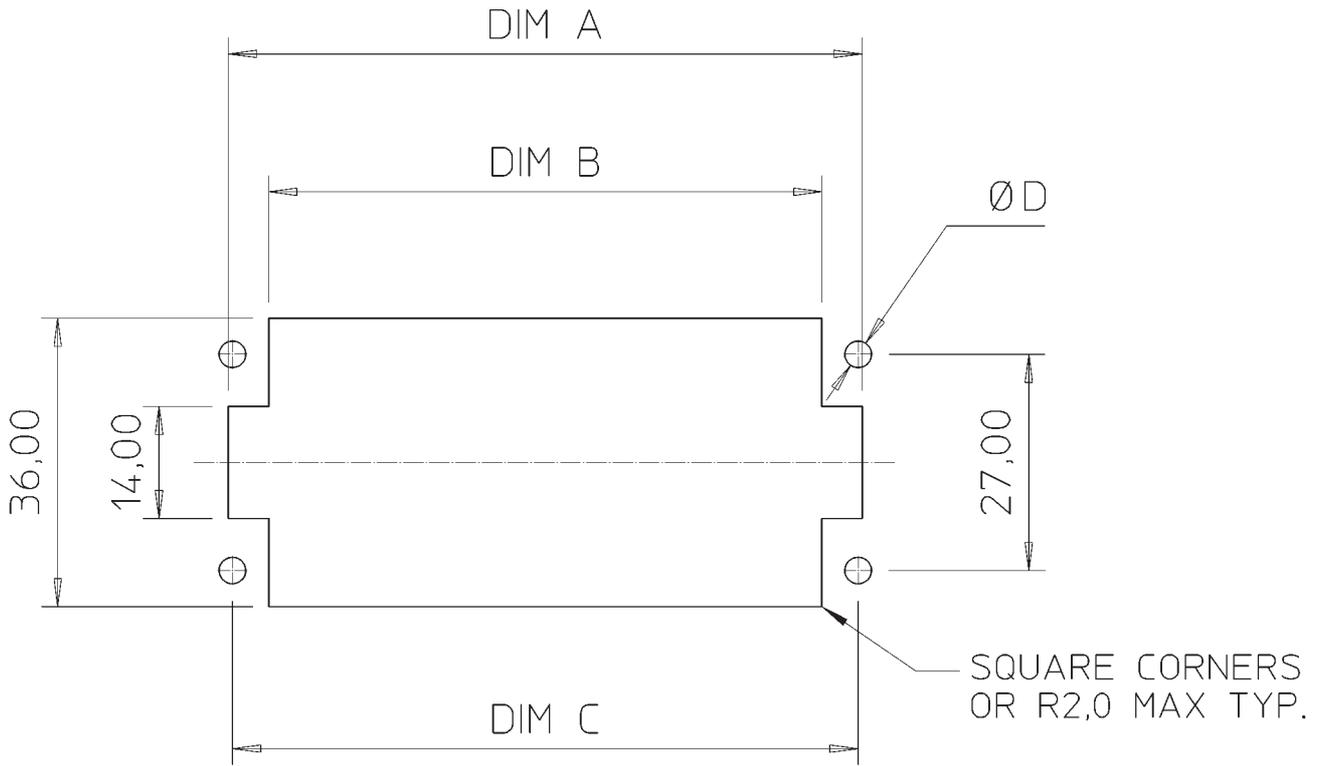


Connector mating dimensions



Dimensions are in mm

Panel cut out details

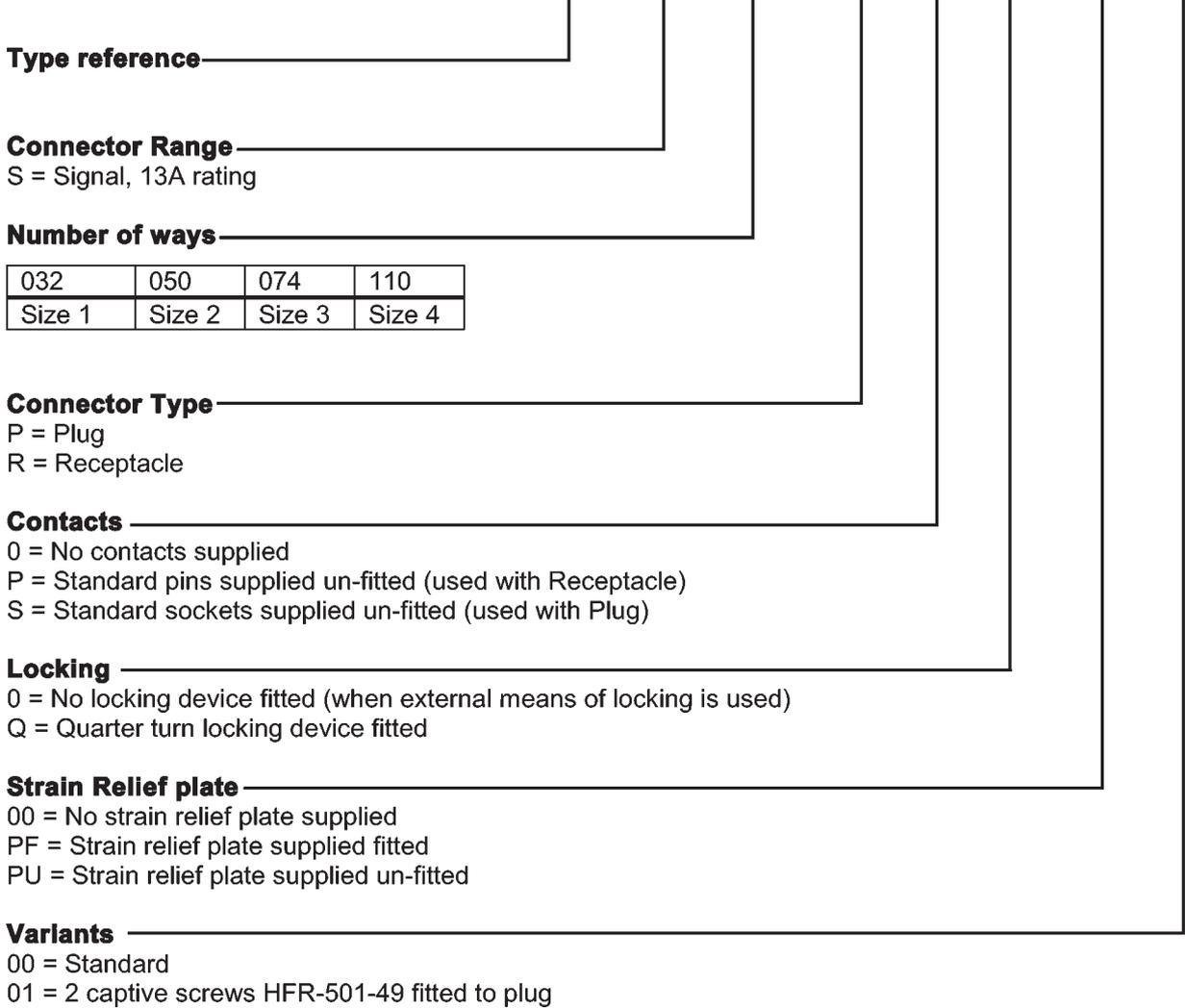


SIZE	DIM A	DIM B	DIM C	ØD REAR MOUNT	ØD FRONT MOUNT
1	45	35	44	Ø3,3 PLAIN HOLE USED IN CONJUNCTION WITH M3 SCREW	M3 x 0,5 THREADED BUSH OR Ø3,3 PLAIN HOLE USED IN CONJUNCTION WITH M3 SCREW AND NUT
2	58	48	57		
3	78,5	68,5	77,5		
4	105	95	104		

Ordering Information

CONNECTOR PART NUMBERING

HFR S 110 R 0 Q PF 00



CONTACT PART NUMBERING

Part Number	Description	Cable mm ²	Cable AWG	Connector type
HFR-15CP01	1.5mm crimp pin, standard crimp	1.0 to 2.5	18, 16 & 14	Signal
HFR-15CP02	1.5mm crimp pin, small crimp	0.5 to 1.0	20, 18 & 16	Signal
HFR-15CS01	1.5mm crimp socket, standard crimp	1.0 to 2.5	18, 16 & 14	Signal
HFR-15CS02	1.5mm crimp socket, small crimp	0.5 to 1.0	20, 18 & 16	Signal

STRAIN RELIEF PLATE PART NUMBERING

Part Number	Description	Used with Connector type
HFR-500-01	Strain Relief Plate, Size 1	32 way Signal
HFR-500-02	Strain Relief Plate, Size 2	50 way Signal
HFR-500-03	Strain Relief Plate, Size 3	74 way Signal
HFR-500-04	Strain Relief Plate, Size 4	110 way Signal

FIXING SCREWS PART NUMBERING

Part Number	Description	Quantity required
HFR-501-49	Screw for panel mounting (M3 x 14)	4 screws per connector
HFR-502-49	Screw for strain relief plate	2 screws per strain relief plate

MATERIALS AND PROTECTIVE FINISHES

Item	Material	Protective finish
Insulator	Polyamide 6. (Nylon), glass and mineral reinforced	None
Contacts	Copper alloy	Contact surfaces and crimp barrel: Gold plate over nickel over copper. Other surfaces: Nickel plate over copper.
Quarter turn lock	Mild steel	Zinc plate and passivate. Handle: insulative coating.
Strain relief plate	Stainless steel	None
Screws and inserts	Stainless steel	None
Marking ink	Epoxy	Not applicable