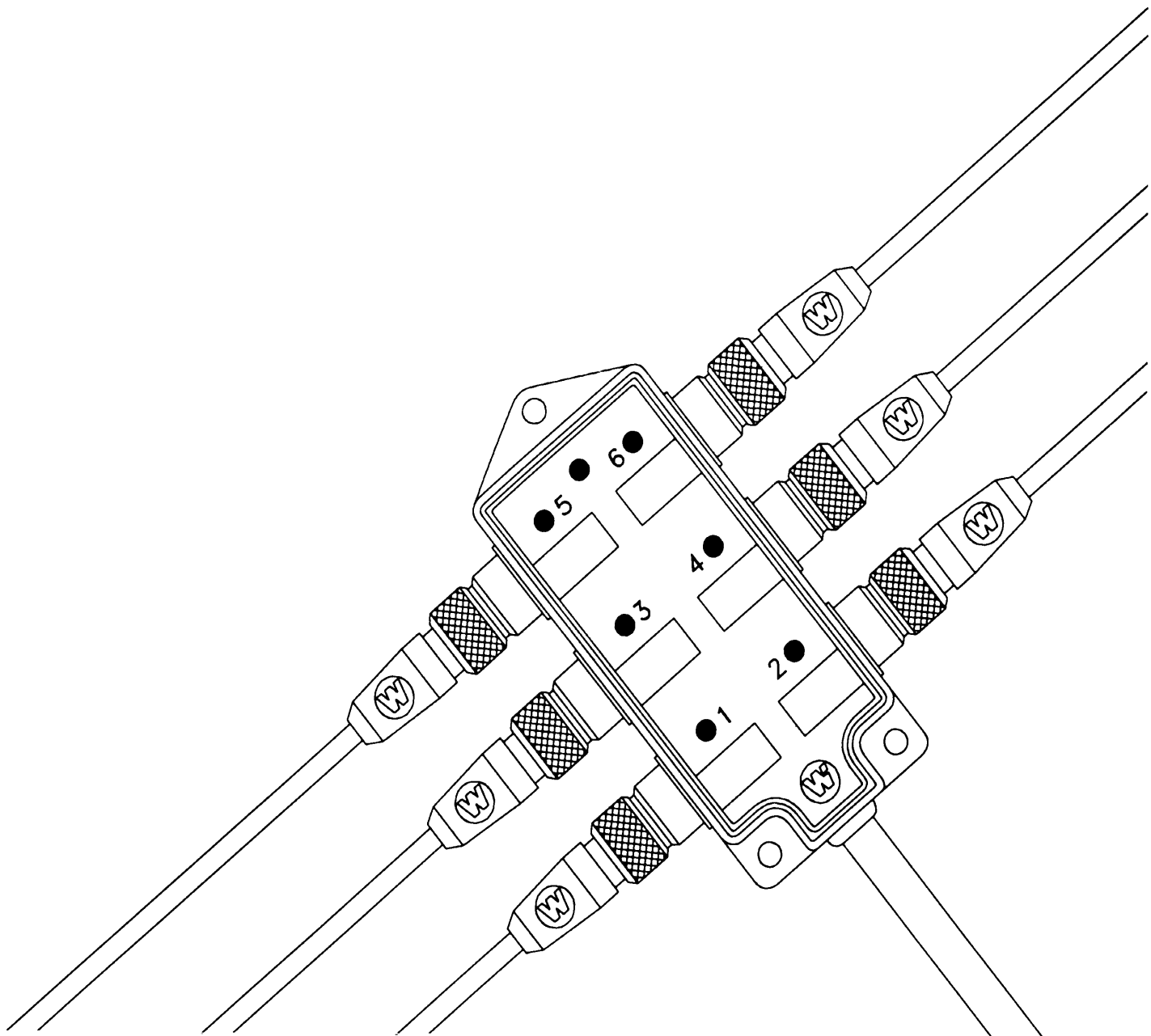


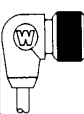
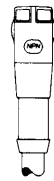
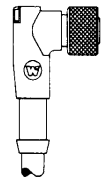
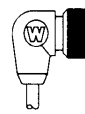
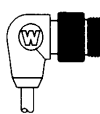
BRAD HARRISON CONNECTOR SYSTEMS

Micro Change and Multi-Port Interconnect System

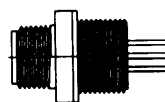
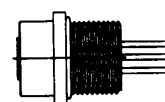
Technical Data Sheet



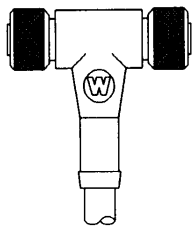
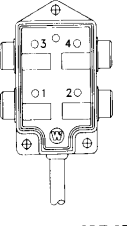
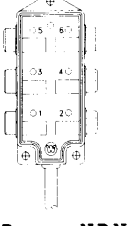
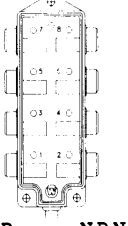
Micro Change Portables

Connector Type				MICRO CHANGE - 4 POLE 2, 3 & 4 WIRE - SINGLE KEY WAY							
Contact Type				Female Contacts				Male Pins			
Coupling Method				M12 Female Thread				M12 Female Threads		M12 Male Threads	
Head Style											
Cable Type	Colour Code	No of Wires	Length (M)								
SJTO	1-Brown 3-Blue 4-Black	3	2	80256	80296	80326-P	80326-N	80211	80221	81226-001	81227-001
			3	80257	80297	80327-P	80327-N	80212	80222	81226-005	81227-005
			5	80259	80299	80329-P	80329-N	80214	80224	81226-003	81227-003
			10	80239	80249	80334-P	80334-N	BG11803	BG11968	81226-010	81227-010
	1-Brown 2-White 3-Blue 4-Black	4	2	80456	80496	80626-P	80626-N	80411	80421	81426-001	81427-001
			3	80457	80497	80627-P	80627-N	80412	80422	81426-005	81427-005
			5	80459	80499	80629-P	80629-N	80414	80424	81426-003	81427-003
			10	80439	80449	80634-P	80634-N	BG11969	BG11970	81426-010	81427-010
PVC	1-Brown 3-Blue 4-Black	3	2	80256-E	80296-E	80326-PE	80326-NE	80211-E	80221-E	81226-001-E	81227-001-E
			3	80257-E	80297-E	80327-PE	80327-NE	80212-E	80222-E	81226-005-E	81227-005-E
			5	80259-E	80299-E	80329-PE	80329-NE	80214-E	80224-E	81226-003-E	81227-003-E
			10	80239-E	80249-E	80334-PE	80334-NE	BG11803-E	BG11968-E	81226-010-E	81227-010-E
	1-Brown 2-White 3-Blue 4-Black	4	2	80456-E	80496-E	80626-PE	80626-NE	80411-E	80421-E	81426-001-E	81427-001-E
			3	80457-E	80497-E	80627-PE	80627-NE	80412-E	80422-E	81426-005-E	81427-005-E
			5	80459-E	80499-E	80629-PE	80629-NE	80414-E	80424-E	81426-003-E	81427-003-E
			10	80439-E	80449-E	80634-PE	80634-NE	BG11969-E	BG11970-E	81426-010-E	81427-010-E
PUR	1-Brown 3-Blue 4-Black	3	2	80256-P	80296-P	80326-PP	80326-NP	80211-P	80221-P	81226-001-P	81227-001-P
			3	80257-P	80297-P	80327-PP	80327-NP	80212-P	80222-P	81226-005-P	81227-005-P
			5	80259-P	80299-P	80329-PP	80329-NP	80214-P	80224-P	81226-003-P	81227-003-P
			10	80239-P	80249-P	80334-PP	80334-NP	BG11803-P	BG11968-P	81226-010-P	81227-010-P
	1-Brown 2-White 3-Blue 4-Black	4	2	80456-P	80496-P	80626-PP	80626-NP	80411-P	80421-P	81426-001-P	81427-001-P
			3	80457-P	80497-P	80627-PP	80627-NP	80412-P	80422-P	81426-005-P	81427-005-P
			5	80459-P	80499-P	80629-PP	80629-NP	80414-P	80424-P	81426-003-P	81427-003-P
			10	80439-P	80449-P	80634-PP	80634-NP	BG11969-P	BG11970-P	81426-010-P	81427-010-P

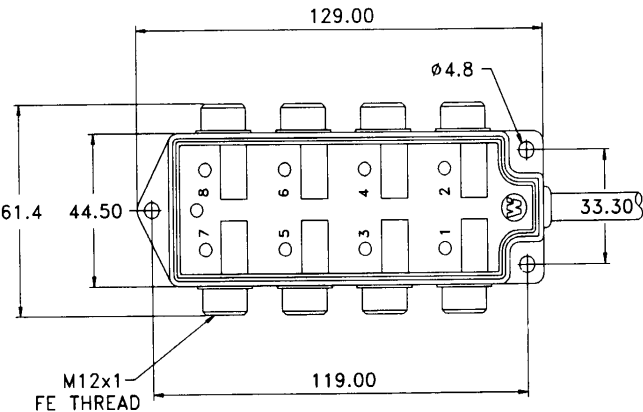
Micro Change Receptacles

Connector Type			MICRO CHANGE - 4 POLE 3 & 4 WIRE - RECEPTACLES			
Contact Type			Male Pins		Female Contacts	
Coupling Method			M12 Male Thread		M12 Female Thread	
Receptacle Shell Thread						
M14 Sensor - Short Thread	3	75	80266			
		150	80201			
	4	75	80466			
		150	80479			
		300	80406			
M14 Bulkhead - Long Thread	3	150		80219		
		300		80225	BG11966	
	4	150		80409		
		300	BG12364	80408	BG12122	
PG13.5	3	150	80205			
	4	100	80405			
PG11	4	150	BG12243			
PG9	4	150	80479-PG9			

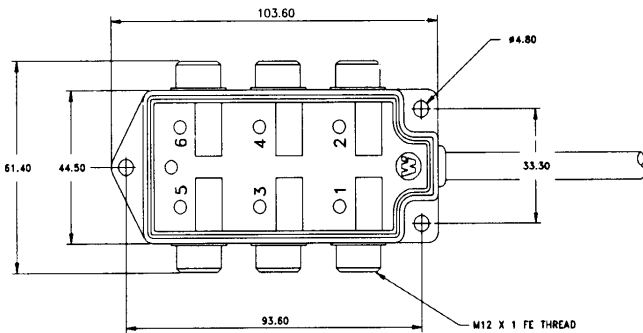
Multi-Port Interconnect System — MPIS

MPIS Style		2 Port	4 Port		6 Port		8 Port	
Thread	Cable Length							
			PNP	NPN	PNP	NPN	PNP	NPN
Female Thread	1 m	80350-002						
	5 m	80350-004	803P401	803N401	803P601	803N601	803P801	803N801
	10 m	80350-005						

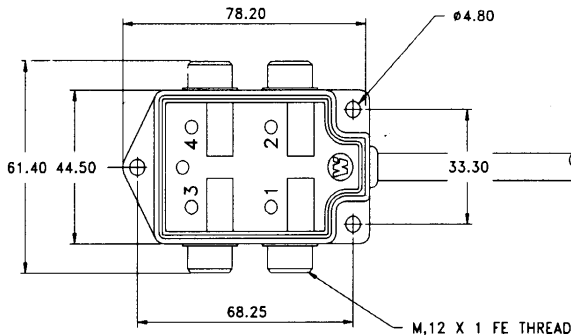
Dimensional Drawings — MPIS



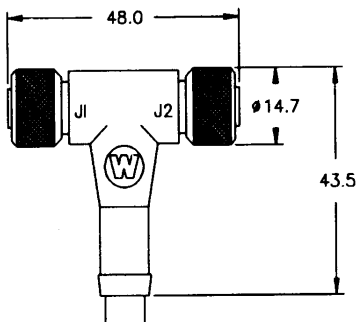
8 Port MPIS



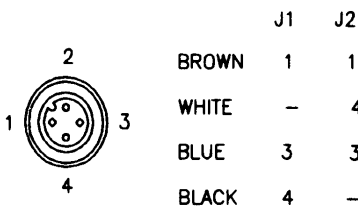
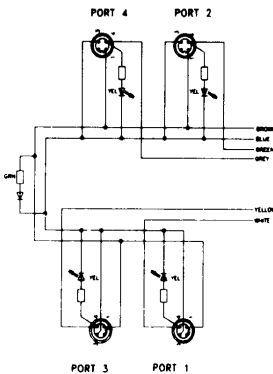
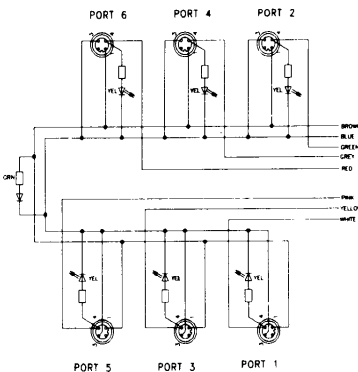
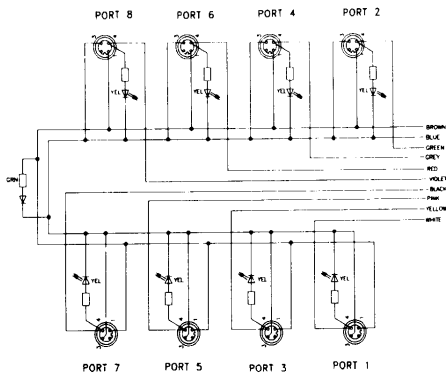
6 Port MPIS



4 Port MPIS



Circuit Diagrams



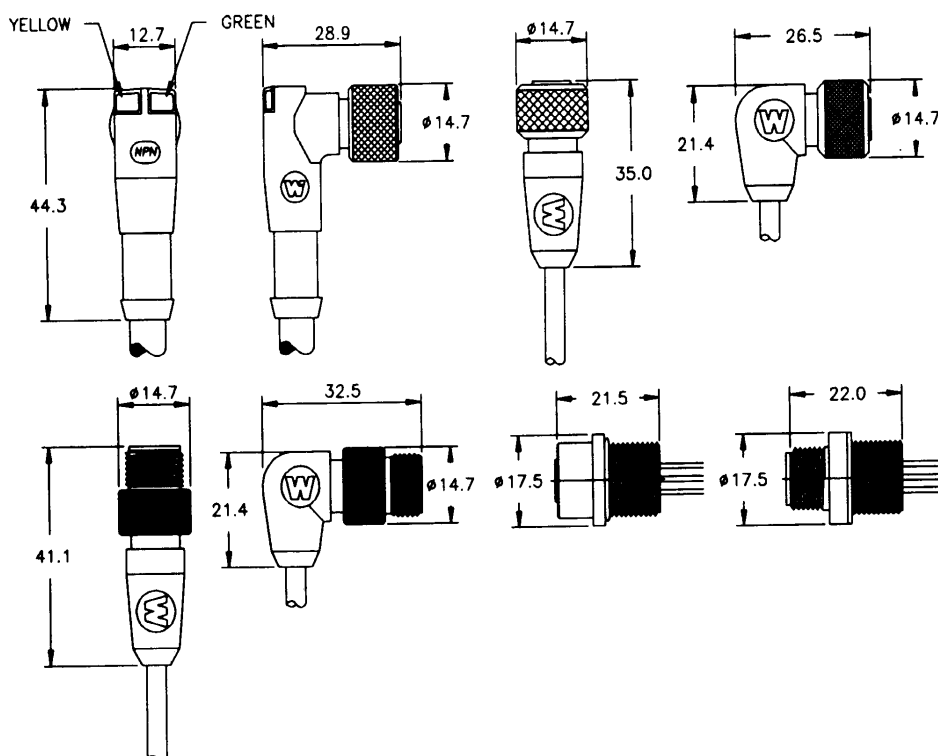
Technical Specification

Connector Technical Specification	Straight and 90	LED Connector
Moulded Insert	Nylon 6/6	Nylon 6/6
Over moulding	PVC or PUR	PVC or PUR
Sealing Gland	Nitrile O Ring	Nitrile O Ring
Contacts	Silver Plated Brass	Gold Plated Brass
Coupling Nut	M12 Anodized Aluminium	M12 Anodized Aluminium
Nominal Voltage	250VAC/300VDC	10 to 30 VDC
Nominal Amperage	3A	3A
Degree of Protection	IP67/IP68	IP67/IP68

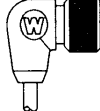
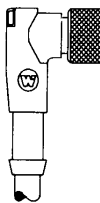
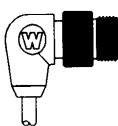
MPIS Technical Specification	4, 6 and 8 Port
MPIS Unit Material	Nylon 6/6
Receptacle Material	Nickel Plated Brass
Contacts	Silver Plated Brass
Cable	22AWG PVC, 300V, -20C to +90C
Voltage Rating	10 to 30 VDC
Maximum Current - Total Unit	4A
Maximum Current - Per Port	500mA
Indicators	Green LED for Power, Yellow LED for Function
Protection Rating	IP67

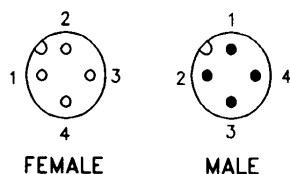
Cable Type	SJTO	PVC	PUR
Outer Sheath Material	PVC	PVC	Polyurethane
Screen Type	Braid	None	None
Conductor Insulation	PVC	PVC	PVC
3 Core CSA	0.34mm	0.34mm	0.34mm
4 Core CSA	0.34mm	0.25mm	0.34mm
Temperature Rating	-40C to +105C	-5C to +70C	-25C to +80C
Voltage Rating	300VAC	250VAC	250VAC

Dimensional Drawings — Micro Change



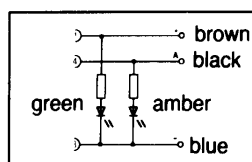
Micro Change Jumpers

		Contact Type	Coupling Method	Head Style	Connector Type	MICRO CHANGE - 4 POLE - 3 WIRE - SINGLE KEY WAY					
		Male Pins	Male Coupling Nut	M12 Male Coupling Nut	Contact Type	Female Contacts					
					Coupling Method	M12 Female Coupling Nut					
					No of Wires	3 Wire					
					Head Style						
											
						Straight	90	LED-PNP	LED-NPN		
					Cable	Length (m)					
	Straight		SJTO	0.3	81228-001	81229-001	81256-001-P	81256-001-N			
				0.6	81228-008	81229-008	81256-005-P	81256-005-N			
				1	81228-002	81229-002	81256-002-P	81256-002-N			
				2	81228-003	81229-003	81256-003-P	81256-003-N			
				3	81228-009	81229-009	81256-006-P	81256-006-N			
			PVC	0.3	81228-001-E	81229-001-E	81256-001-PE	81256-001-NE			
				0.6	81228-008-E	81229-008-E	81256-005-PE	81256-005-NE			
				1	81228-002-E	81229-002-E	81256-002-PE	81256-002-NE			
				2	81228-003-E	81229-003-E	81256-003-PE	81256-003-NE			
				3	81228-009-E	81229-009-E	81256-006-PE	81256-006-NE			
			PUR	0.3	81228-001-P	81229-001-P	81256-001-PP	81256-001-NP			
				0.6	81228-008-P	81229-008-P	81256-005-PP	81256-005-NP			
				1	81228-002-P	81229-002-P	81256-002-PP	81256-002-NP			
				2	81228-003-P	81229-003-P	81256-003-PP	81256-003-NP			
				3	81228-009-P	81229-009-P	81256-006-PP	81256-006-NP			
	90		SJTO	0.3	81230-001	81231-001	81257-001-P	81257-001-N			
				0.6	81230-008	81231-008	81257-005-P	81257-005-N			
				1	81230-002	81231-002	81257-002-P	81257-002-N			
				2	81230-003	81231-003	81257-003-P	81257-003-N			
				3	81230-009	81231-009	81257-006-P	81257-006-N			
			PVC	0.3	81230-001-E	81231-001-E	81257-001-PE	81257-001-NE			
				0.6	81230-008-E	81231-008-E	81257-005-PE	81257-005-NE			
				1	81230-002-E	81231-002-E	81257-002-PE	81257-002-NE			
				2	81230-003-E	81231-003-E	81257-003-PE	81257-003-NE			
				3	81230-009-E	81231-009-E	81257-006-PE	81257-006-NE			
			PUR	0.3	81230-001-P	81231-001-P	81257-001-PP	81257-001-NP			
				0.6	81230-008-P	81231-008-P	81257-005-PP	81257-005-NP			
				1	81230-002-P	81231-002-P	81257-002-PP	81257-002-NP			
				2	81230-003-P	81231-003-P	81257-003-PP	81257-003-NP			
				3	81230-009-P	81231-009-P	81257-006-PP	81257-006-NP			

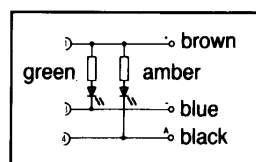


Face View Configuration

PNP Format



NPN Format



Micro Change Options

Coupling Nut Material	Add to Part Number
Plastic (Delrin)	X
Stainless Steel	SS
Brass	B

Other Cable Options	Add to SJTO Part Number
High Flexibility PUR	-PH
Halogen Free	-HF
CEI Approved PVC	-I

Degree of Protection	Add to Part Number
IP68 to 100psi	68

Example Part Numbers

High Flexibility PUR
Plastic Coupling Nut

80256-PH
80256-X

Other Products from BRAD HARRISON.

Nano Change - a small light weight 3 or 4 pole, snap or coupling nut connector, with a choice of straight, 90 degree and LED versions. Moulded to PVC and PUR cable in a wide variety of lengths. Current applications include meteorological instruments and medical equipment.

Micro Change Twin Key Way - offers 2 to 6 pole in the Micro Change format with a 1/2 inch UNF coupling nut. Frequently used on AC sensors, other applications include load cells, light curtains and instrumentation.

Mini Change - 2 to 12 poles are available in straight and 90 degree versions. The Mini Change is a particularly robust connector offering IP68 in a compact package. Applications include the off-shore industry, vehicle weighing systems and flue gas monitoring equipment.

Multi-Port Interconnect Systems - MPIS - a full range of options are available for AC and DC applications using both Mini and Micro Change connector formats, for IP67 and IP68 protection.

Please contact your local Brad Harrison representative or one of the Daniel Woodhead companies for further information.

Woodhead / Brad Harrison



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