

Couplings

Plastic / Short Plastic

Features: Economical couplings for low torque applications. Suitable for encoders and potentiometers where little torque is required.

Couplings – Plastic / Short Plastic

RoHS 10

Type	Material	Accessories
MCJN	Glass Fiber Reinforced PBT Polybutylene Terephthalate Resin	Set Screw
MCJSN	PBT Polybutylene Terephthalate Resin	

Operating Temperature -20~80°C
 The lateral, angular, and axial misalignment values shown are for each occurring individually. When more than one misalignments are occurring simultaneously, the allowable maximum value of each will be reduced by 1/2.
 For the selection criteria and alignment procedures, see P.1091, 1093.

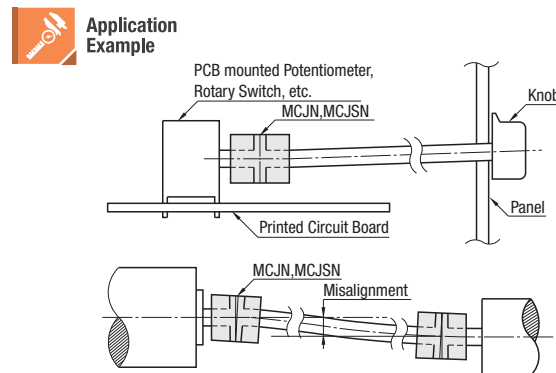
Part Number	Type	No.	d ₁	d ₂	D	L	l	F	Set Screw	
									M x Length	Tightening Torque (N-m)
MCJN	9	1.5	1.5		9	11.4	3.2	1.6	M2 x 4	0.08
	10	1.5	2.5		10	11.8	5.1	2.6	M3 x 4	0.15
	14	4	2.5	3	3.2	4	5.3	2.7	M3 x 5	0.2
	15	5	3	3.2	4	5	5.5	2.7	M3 x 5	0.25
16	6	3	3.2	4	5	6	3.5	M4 x 6	0.4	
										6
20	8	4	5	6	8	7.1	3.6	M4 x 6	0.5	
										8
22	10				10	7.5	3.9	M4 x 8	0.8	
										10
28	12				12					
										12

Part Number	Type	No.	d ₁	d ₂	D	L	l	F	Set Screw	
									M x Length	Tightening Torque (N-m)
MCJSN	8	2	2		8	9	3.2	1.6	M2 x 3	0.05
	12	2.5	3	3.2	12	14.5	5.3	2.6	M3 x 4	0.2
	14	4		4	14	15	5.2	2.8	M3 x 4	0.25
15	6	2.4	3.2	4	5	6	2.6	M3 x 5	0.25	
										6
18	8		4	5	6	8				
										8

Part Number	Type	No.	Allow. Torque (N-m)	Angular Misalign. (°)	Lateral Misalign. (mm)	Static Torsional Spring Constant (N-m/rad)	Max. Rotational Speed (r/min)	Inertia Moment of Inertia (Kg-m ²)	Allow. Axial Misalign. (mm)	Mass (g)	
MCJN	9	2	0.05	2.5	0.15	1.5	4000	1 x 10 ⁻⁶	±0.2	0.9	
											1.1
											2.5
											3.4
											4
											4.5
											7.5
											10
MCJSN	8	2	0.05	0.1	0.05	1.8	4000	0.5 x 10 ⁻⁸	±0.15	0.7	
											2.3
											2.7
											3

Part Number Example

Part Number: MCJN20 - Shaft Bore Dia. d₁: 8 - Shaft Bore Dia. d₂: 6



Note: 1. For small misalignment, use one MCJ Series for connection.
 2. For large misalignment, use two MCJ Series for connection.

Precautions for Use

- The couplings are highly reliable in light loading applications. They are suitable for potentiometers and encoders.
- Avoid rough handling. Do not apply excessive bending and torsional forces during installation. **Be sure to maintain tightening torque for set screws.** (Resin material breaks if the tightening torque exceeds the allowable range)
- The couplings have been proven with heat-run tests that show 10 years of service life and 10⁸ revolutions if used under the allowable torque and misalignment values.

Universal Joints

Set Pin

Universal Joints – Set Pin

Rubber Cover CSC (For Single)

Operating Temperature: -20~100°C

JIS B1454 C Type (UNCA)
 JIS B1454 CC Type (UNCW)

Type	Material	Surface Treatment	Accessory
Single UNCA	SCM415 Alloy Steel (JIS) (Carburized)	Manganese Phosphate Coating	Strong Set Pin (Tolerance m6) 2 Pcs. Ring Spring 2 Pcs.
Double UNCW			
Rubber Cover CSC	NBR Nitrile Rubber	—	Ring Spring 2 pcs.

Universal Joints

Part Number	Type	d	D	Single		Double		l	C	E	P									
				L	LD	A	LD													
UNCA (Single)	6	12	31	—	—	15.5	9	4.5	3	3	3									
												8	15	36	—	—	18	10	5	3.5
												10	20	42	67.5	25.5	21	12	6	4.5
												12	23	52	83	31	26	15	7.5	5
												14	26	59	94.5	35.5	29.5	17	8.5	5.8
UNCW (Double)	16	30	74	117.5	43.5	37	22	11	6.5	7	7									
												18	33	81	—	—	40.5	23.5	11.75	7
												20	36	87	139	52	43.5	25	12.5	8
												25	44	105	—	—	52.5	30	15	10
												30	51	122	—	—	61	35	17.5	11.5

Rubber Covers

Part Number	Type	d	KC
CSC (Single)	8	25	25
		32	32
		35	35
		40	40
		46	46
		52	52
		58	58
		68	68
		82	82

UNCW is not available for d6, d8, d18, d25 and d30.

*No rubber covers are available for d=6.

Part Number	Type	d	UNCA, UNCW Common			UNCA				UNCW																
			Condition Variable	Allowable Rotational Speed (r/min)	Allowable Operating Angle (°)	Static Tensile Failure Load (N)	Allowable Torque (N-m)	Static Failure Torque (N-m)	GD ² (Kg-cm ²)	Mass (g)	Allowable Torque (N-m)	Static Failure Torque (N-m)	GD ² (Kg-cm ²)	Mass (g)												
UNCA (Single Type)	6	12	28000	1800	30 (*)	5300	5.3	16	0.015	15	—	—	—													
														8	42000	1500	7840	11.6	35	0.044	30					
														10	70000	1300	13000	27.4	83	0.13	55	20.1	61	0.21	95	
														12	106000	1100	23000	46	140	0.35	110	33	100	0.55	180	
														14	133000	1000	26000	66	200	0.67	155	46	140	1	250	
UNCW (Double Type)	16	30	175000	900	30 (*)	39000	102	310	1.5	260	76	230	2.3	410												
															18	203000	800	44000	132	400	2.3	345	—	—	—	—
															20	239000	700	52000	175	530	3.6	465	129	390	5.7	690
															25	356000	600	81000	330	1000	9.7	790	—	—	—	—
															30	465000	550	100000	495	1500	20	1160	—	—	—	—

* For Double Type, Allowable Operating Angle (°) applies to each end.

Part Number Example

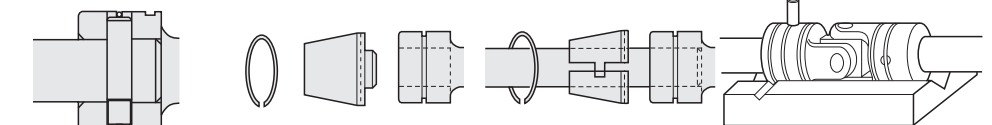
Part Number: UNCA16 CSC16

High-Strength Dowel Pins

- Material SCM415 Alloy Steel (JIS) is carburized and ground to an m6 tolerance.
- Effective section is shouldered as shown and tightly engaged only on one side.
- Small misalignment is allowed on the mating side hole, but should be finished to an H8 tolerance.

How to Handle Ring Spring

- Spring may lose its tension if reused.
- A fixture as shown would assist the assembly procedure.
- Do not leave the spring on the O.D. section for extended time periods or strike with any instrument.



How to Select

(1) Conditional Variables (Formula)

$$\text{Calculation Condition Variable} = \left(\frac{\text{Rotational Speed (r/min)}}{\text{Allowable Rotational Speed}} \right) \times \left(\frac{\text{Angle (°)}}{\text{Allowable Operating Angle}} \right) \times \left(\frac{\text{Torque (N-m)}}{\text{Allowable Torque}} \right)$$

Calculation Condition Variable < Allowable Condition Variable

(2) Rotational Speed (r/min)

$$\text{Rotational Speed} \times \text{Angle Factor} < \text{Allowable Speed}$$

Angle Factor Table

Angle	5° or Less	10°	15°	20°	25°	30°
Angle Coefficient	1.00	1.05	1.18	1.43	1.82	2.50