

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	6ADF5 20N/1Nm	6ADF80-40 100N/10Nm	6ADF80-40 300N/30Nm
Sensor Type	Design		Robotics Flange FT Sensor	Robotics Flange FT Sensor	Robotics Flange FT Sensor
	Measuring Principle		6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge
	Construction		3x Bending Element	3x Bending Element	3x Bending Element
	Material		Alloy	Alloy	Steel 1.4542
	Weight	kg			
Dimensions	Diameter	mm	45	80	80
	Height	mm	26	40	40
	Pitch Circle	mm	20	40	40
Mechanical Data	Rated Force Fx	N	20	100	300
	Rated Force Fy	N	20	100	300
	Rated Force Fz	N	50	200	600
	Rated Torque Mx	Nm	1	10	30
	Rated Torque My	Nm	1	10	30
	Rated Torque Mz	Nm	1	10	30
	Operating Force Fx	N	60	900	2100
	Operating Force Fy	N	60	900	2100
	Operating Force Fz	N	150	3000	5400
	Bending Moment Limit Mx	Nm	1.5	60	150
	Bending Moment Limit My	Nm	1.5	60	150
	Bending Moment Limit Mz	Nm	1.5	30	90

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	6ADF5 20N/1Nm	6ADF80-40 100N/10Nm	6ADF80-40 300N/30Nm	
Electrical Data	Rated Characteristic Value Fx	mV/V	0.5	0.23	0.3	
	Rated Characteristic Value Fy	mV/V	0.5	0.23	0.3	
	Rated Characteristic Value Fz	mV/V	0.8	0.13	0.22	
	Rated Characteristic Value Mx	mV/V	1.5	0.35	0.4	
	Rated Characteristic Value My	mV/V	1.5	0.35	0.4	
	Rated Characteristic Value Mz	mV/V	1.5	0.68	0.7	
	Smallest display step with BX3 (Noise amplitude)					
	Resolution Fx	N	0.0080	0.0870	0.2000	
	Resolution Fy	N	0.0080	0.0870	0.2000	
	Resolution Fz	N	0.0125	0.3077	0.5455	
	Resolution Mx	Nm	0.0001	0.0057	0.0150	
	Resolution My	Nm	0.0001	0.0057	0.0150	
	Resolution Mz	Nm	0.0001	0.0029	0.0086	
	Smallest display step with BX8 (Noise amplitude)					
	Resolution Fx	N	0.0016	0.0174	0.0400	
	Resolution Fy	N	0.0016	0.0174	0.0400	
	Resolution Fz	N	0.0025	0.0615	0.1091	
	Resolution Mx	Nm	0.00003	0.0011	0.0030	
Resolution My	Nm	0.00003	0.0011	0.0030		
Resolution Mz	Nm	0.00003	0.0006	0.0017		
Characteristics	Origin		B	B	B	
	Connection		CG	CG; MP11; M12	CG; MP11; M12	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	6ADF100-50 200N/20Nm	6ADF100-50 600N/60Nm	K6D27 50N/1Nm	K6D40 50N/5Nm
Sensor Type	Design		Robotics Flange FT Sensor	Robotics Flange FT Sensor	Miniature FT Sensor	FT Sensor
	Measuring Principle		6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge
	Construction		3x Bending Element	3x Bending Element	6x Pillar	6x Pillar
	Material		Alloy	Steel 1.4542	Alloy	Alloy
	Weight	kg		1.070	0.030	0.160
Dimensions	Diameter	mm	100	100	27	60
	Height	mm	40	40	25	40
	Pitch Circle	mm	50	50	20	47
Mechanical Data	Rated Force Fx	N	200	600	50	50
	Rated Force Fy	N	200	600	50	50
	Rated Force Fz	N	400	1200	200	200
	Rated Torque Mx	Nm	20	60	1	5
	Rated Torque My	Nm	20	60	1	5
	Rated Torque Mz	Nm	20	60	1	5
	Operating Force Fx	N	600	1800	75	200
	Operating Force Fy	N	600	1800	75	200
	Operating Force Fz	N	2400	9600	300	800
	Bending Moment Limit Mx	Nm	200	180	3	20
	Bending Moment Limit My	Nm	200	180	3	20
Bending Moment Limit Mz	Nm	100	120	3	30	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	6ADF100-50 200N/20Nm	6ADF100-50 600N/60Nm	K6D27 50N/1Nm	K6D40 50N/5Nm	
Electrical Data	Rated Characteristic Value Fx	mV/V	0.75	0.6	0.6	0.2	
	Rated Characteristic Value Fy	mV/V	0.75	0.6	0.6	0.2	
	Rated Characteristic Value Fz	mV/V	0.33	0.25	0.8	0.2	
	Rated Characteristic Value Mx	mV/V	0.2	0.68	0.7	0.3	
	Rated Characteristic Value My	mV/V	0.2	0.68	0.7	0.3	
	Rated Characteristic Value Mz	mV/V	0.4	0.9	0.6	0.4	
	Smallest display step with BX3 (Noise amplitude)						
	Resolution Fx	N	0.0533	0.2000	0.0167	0.0500	
	Resolution Fy	N	0.0533	0.2000	0.0167	0.0500	
	Resolution Fz	N	0.2424	0.9600	0.0500	0.2000	
	Resolution Mx	Nm	0.0200	0.0176	0.0003	0.0033	
	Resolution My	Nm	0.0200	0.0176	0.0003	0.0033	
	Resolution Mz	Nm	0.0100	0.0133	0.0003	0.0025	
	Smallest display step with BX8 (Noise amplitude)						
	Resolution Fx	N	0.0107	0.0400	0.0033	0.0100	
	Resolution Fy	N	0.0107	0.0400	0.0033	0.0100	
	Resolution Fz	N	0.0485	0.1920	0.0100	0.0400	
	Resolution Mx	Nm	0.0040	0.0035	0.0001	0.0007	
	Resolution My	Nm	0.0040	0.0035	0.0001	0.0007	
	Resolution Mz	Nm	0.0020	0.0027	0.0001	0.0005	
	Characteristics	Origin		B	B	B	B
Connection			CG; MP11; M12	CG; MP11; M12	CG	MP11. CG	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D40 200N/5Nm	K6D40 500N/20Nm	K6D68 1kN/20Nm	K6D68 2kN/50Nm
Sensor Type	Design		FT Sensor	FT Sensor	FT Sensor	FT Sensor
	Measuring Principle		6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge
	Construction		6x Pillar	6x Pillar	6x Pillar	6x Pillar
	Material		Alloy	Steel 1.4542	Alloy	Steel 1.4542
	Weight	kg	0.190	0.360	0.550	1.050
Dimensions	Diameter	mm	60	60	83	83
	Height	mm	40	40	64	64
	Pitch Circle	mm	47	47	65	65
Mechanical Data	Rated Force Fx	N	200	500	1000	2000
	Rated Force Fy	N	200	500	1000	2000
	Rated Force Fz	N	500	2000	2000	4000
	Rated Torque Mx	Nm	5	20	20	50
	Rated Torque My	Nm	5	20	20	50
	Rated Torque Mz	Nm	10	40	20	50
	Operating Force Fx	N	800	2000	3000	8000
	Operating Force Fy	N	800	2000	3000	8000
	Operating Force Fz	N	2000	8000	10000	20000
	Bending Moment Limit Mx	Nm	20	80	140	250
	Bending Moment Limit My	Nm	20	80	140	250
Bending Moment Limit Mz	Nm	30	120	140	300	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D40 200N/5Nm	K6D40 500N/20Nm	K6D68 1kN/20Nm	K6D68 2kN/50Nm	
Electrical Data	Rated Characteristic Value Fx	mV/V	0.4	0.33	0.6	0.56	
	Rated Characteristic Value Fy	mV/V	0.4	0.33	0.6	0.56	
	Rated Characteristic Value Fz	mV/V	0.4	0.45	0.43	0.38	
	Rated Characteristic Value Mx	mV/V	0.3	0.39	0.3	0.37	
	Rated Characteristic Value My	mV/V	0.3	0.39	0.3	0.37	
	Rated Characteristic Value Mz	mV/V	0.4	0.62	0.3	0.32	
	Smallest display step with BX3 (Noise amplitude)						
	Resolution Fx	N	0.1000	0.3030	0.3333	0.7143	
	Resolution Fy	N	0.1000	0.3030	0.3333	0.7143	
	Resolution Fz	N	0.2500	0.8889	0.9302	2.1053	
	Resolution Mx	Nm	0.0033	0.0103	0.0133	0.0270	
	Resolution My	Nm	0.0033	0.0103	0.0133	0.0270	
	Resolution Mz	Nm	0.0050	0.0129	0.0133	0.0313	
	Smallest display step with BX8 (Noise amplitude)						
	Resolution Fx	N	0.0200	0.0606	0.0667	0.1429	
	Resolution Fy	N	0.0200	0.0606	0.0667	0.1429	
	Resolution Fz	N	0.0500	0.1778	0.1860	0.4211	
	Resolution Mx	Nm	0.0007	0.0021	0.0027	0.0054	
	Resolution My	Nm	0.0007	0.0021	0.0027	0.0054	
	Resolution Mz	Nm	0.0010	0.0026	0.0027	0.0063	
	Characteristics	Origin		B	B	B	B
Connection			CG	CG	CG	CG	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D68 5kN/50Nm	K6D68 10kN/100Nm	K6D68 10kN/500Nm	K6D80 500N/20Nm
Sensor Type	Design		FT Sensor	FT Sensor	FT Sensor	FT Sensor
	Measuring Principle		6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge
	Construction		6x Pillar	6x Pillar	6x Pillar	6x Pillar
	Material		Steel 1.4542	Steel 1.4542	Steel 1.4542	Alloy
	Weight	kg	1.050	1.050	1.050	0.800
Dimensions	Diameter	mm	83	83	83	80
	Height	mm	64	64	64	50
	Pitch Circle	mm	65	65	65	60
Mechanical Data	Rated Force Fx	N	5000	10000	10000	500
	Rated Force Fy	N	5000	10000	10000	500
	Rated Force Fz	N	10000	10000	10000	1000
	Rated Torque Mx	Nm	50	100	500	20
	Rated Torque My	Nm	50	100	500	20
	Rated Torque Mz	Nm	50	100	500	20
	Operating Force Fx	N	10000	20000	40000	1500
	Operating Force Fy	N	10000	20000	40000	1500
	Operating Force Fz	N	50000	50000	100000	3000
	Bending Moment Limit Mx	Nm	400	700	1500	60
	Bending Moment Limit My	Nm	400	700	1500	60
	Bending Moment Limit Mz	Nm	450	800	1500	60

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D68 5kN/50Nm	K6D68 10kN/100Nm	K6D68 10kN/500Nm	K6D80 500N/20Nm	
Electrical Data	Rated Characteristic Value Fx	mV/V	1	1	0.5	0.7	
	Rated Characteristic Value Fy	mV/V	1	1	0.5	0.7	
	Rated Characteristic Value Fz	mV/V	0.39	0.39	0.2	0.5	
	Rated Characteristic Value Mx	mV/V	0.26	0.3	0.8	0.7	
	Rated Characteristic Value My	mV/V	0.26	0.3	0.8	0.7	
	Rated Characteristic Value Mz	mV/V	0.23	0.25	0.8	0.7	
	Smallest display step with BX3 (Noise amplitude)						
	Resolution Fx	N	1.0000	2.0000	4.0000	0.1429	
	Resolution Fy	N	1.0000	2.0000	4.0000	0.1429	
	Resolution Fz	N	5.1282	5.1282	10.0000	0.4000	
	Resolution Mx	Nm	0.0385	0.0667	0.1250	0.0057	
	Resolution My	Nm	0.0385	0.0667	0.1250	0.0057	
	Resolution Mz	Nm	0.0435	0.0800	0.1250	0.0057	
	Smallest display step with BX8 (Noise amplitude)						
	Resolution Fx	N	0.2000	0.4000	0.8000	0.0286	
	Resolution Fy	N	0.2000	0.4000	0.8000	0.0286	
	Resolution Fz	N	1.0256	1.0256	2.0000	0.0800	
	Resolution Mx	Nm	0.0077	0.0133	0.0250	0.0011	
	Resolution My	Nm	0.0077	0.0133	0.0250	0.0011	
	Resolution Mz	Nm	0.0087	0.0160	0.0250	0.0011	
	Characteristics	Origin		B	B	B	B; C
Connection			CG	CG	CG	MP11	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D80 1kN/50Nm	K6D80 2kN/100Nm	K6D80 5kN/250Nm	K6D110 1kN/100Nm
Sensor Type	Design		FT Sensor	FT Sensor	FT Sensor	FT Sensor
	Measuring Principle		6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge
	Construction		6x Pillar	6x Pillar	6x Pillar	6x Pillar
	Material		Alloy	Alloy	Steel 1.4542	Alloy
	Weight	kg	0.450			0.880
Dimensions	Diameter	mm	80	80	80	110
	Height	mm	50	50	50	60
	Pitch Circle	mm	60	60	60	80
Mechanical Data	Rated Force Fx	N	1000	2000	5000	1000
	Rated Force Fy	N	1000	2000	5000	1000
	Rated Force Fz	N	2500	5000	15000	2500
	Rated Torque Mx	Nm	50	100	250	100
	Rated Torque My	Nm	50	100	250	100
	Rated Torque Mz	Nm	50	100	250	100
	Operating Force Fx	N	3000	6000	15000	3000
	Operating Force Fy	N	3000	6000	15000	3000
	Operating Force Fz	N	7500	15000	45000	7500
	Bending Moment Limit Mx	Nm	150	300	750	300
	Bending Moment Limit My	Nm	150	300	750	300
	Bending Moment Limit Mz	Nm	150	300	750	300

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D80 1kN/50Nm	K6D80 2kN/100Nm	K6D80 5kN/250Nm	K6D110 1kN/100Nm	
Electrical Data	Rated Characteristic Value Fx	mV/V	0.8	0.8	0.8	0.5	
	Rated Characteristic Value Fy	mV/V	0.8	0.8	0.8	0.5	
	Rated Characteristic Value Fz	mV/V	0.6	0.6	0.6	0.4	
	Rated Characteristic Value Mx	mV/V	0.8	0.8	0.8	0.9	
	Rated Characteristic Value My	mV/V	0.8	0.8	0.8	0.9	
	Rated Characteristic Value Mz	mV/V	0.8	0.8	0.8	0.9	
	Smallest display step with BX3 (Noise amplitude)						
	Resolution Fx	N	0.2500	0.5000	1.2500	0.4000	
	Resolution Fy	N	0.2500	0.5000	1.2500	0.4000	
	Resolution Fz	N	0.8333	1.6667	5.0000	1.2500	
	Resolution Mx	Nm	0.0125	0.0250	0.0625	0.0222	
	Resolution My	Nm	0.0125	0.0250	0.0625	0.0222	
	Resolution Mz	Nm	0.0125	0.0250	0.0625	0.0222	
	Smallest display step with BX8 (Noise amplitude)						
	Resolution Fx	N	0.0500	0.1000	0.2500	0.0800	
	Resolution Fy	N	0.0500	0.1000	0.2500	0.0800	
	Resolution Fz	N	0.1667	0.3333	1.0000	0.2500	
	Resolution Mx	Nm	0.0025	0.0050	0.0125	0.0044	
Resolution My	Nm	0.0025	0.0050	0.0125	0.0044		
Resolution Mz	Nm	0.0025	0.0050	0.0125	0.0044		
Characteristics	Origin		B; C	B; C	B; C	B; C	
	Connection		MP11; CG	CG; MP11	CG; MP11	MP11	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D110 4kN/250Nm	K6D110 8kN/500Nm	K6D110 10kN/750Nm	K6D130 1kN/200Nm
Sensor Type	Design		FT Sensor	FT Sensor	FT Sensor	FT Sensor
	Measuring Principle		6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge
	Construction		6x Pillar	6x Pillar	6x Pillar	6x Pillar
	Material		Alloy	Alloy	Steel 1.4542	Alloy
	Weight	kg				
Dimensions	Diameter	mm	110	110	110	130
	Height	mm	60	60	60	80
	Pitch Circle	mm	80	80	80	100
Mechanical Data	Rated Force Fx	N	4000	8000	10000	1000
	Rated Force Fy	N	4000	8000	10000	1000
	Rated Force Fz	N	10000	20000	25000	2500
	Rated Torque Mx	Nm	250	500	750	200
	Rated Torque My	Nm	250	500	750	200
	Rated Torque Mz	Nm	250	500	750	200
	Operating Force Fx	N	12000	24000	30000	3000
	Operating Force Fy	N	12000	24000	30000	3000
	Operating Force Fz	N	30000	60000	100000	7500
	Bending Moment Limit Mx	Nm	750	1500	2250	400
	Bending Moment Limit My	Nm	750	1500	2250	400
Bending Moment Limit Mz	Nm	750	1500	2250	600	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D110 4kN/250Nm	K6D110 8kN/500Nm	K6D110 10kN/750Nm	K6D130 1kN/200Nm	
Electrical Data	Rated Characteristic Value Fx	mV/V	0.8	0.8	0.8	0.4	
	Rated Characteristic Value Fy	mV/V	0.8	0.8	0.8	0.4	
	Rated Characteristic Value Fz	mV/V	0.6	0.5	0.5	0.4	
	Rated Characteristic Value Mx	mV/V	0.8	0.8	0.8	0.8	
	Rated Characteristic Value My	mV/V	0.8	0.8	0.8	0.8	
	Rated Characteristic Value Mz	mV/V	0.8	0.8	0.8	0.8	
	Smallest display step with BX3 (Noise amplitude)						
	Resolution Fx	N	1.0000	2.0000	2.5000	0.5000	
	Resolution Fy	N	1.0000	2.0000	2.5000	0.5000	
	Resolution Fz	N	3.3333	8.0000	10.0000	1.2500	
	Resolution Mx	Nm	0.0625	0.1250	0.1875	0.0500	
	Resolution My	Nm	0.0625	0.1250	0.1875	0.0500	
	Resolution Mz	Nm	0.0625	0.1250	0.1875	0.0500	
	Smallest display step with BX8 (Noise amplitude)						
	Resolution Fx	N	0.2000	0.4000	0.5000	0.1000	
	Resolution Fy	N	0.2000	0.4000	0.5000	0.1000	
	Resolution Fz	N	0.6667	1.6000	2.0000	0.2500	
	Resolution Mx	Nm	0.0125	0.0250	0.0375	0.0100	
	Resolution My	Nm	0.0125	0.0250	0.0375	0.0100	
	Resolution Mz	Nm	0.0125	0.0250	0.0375	0.0100	
	Characteristics	Origin		B; C	B; C	B; C	B; C
Connection			CG; MP11	MP11	CG; MP11	MP11	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D130 5kN/500Nm	K6D130 15kN/1.2kNm	K6D150 2kN/200Nm	K6D150 4kN/500Nm
Sensor Type	Design		FT Sensor	FT Sensor	FT Sensor	FT Sensor
	Measuring Principle		6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge
	Construction		6x Pillar	6x Pillar	6x Pillar	6x Pillar
	Material		Alloy	Steel 1.4542	Alloy	Alloy
	Weight	kg				
Dimensions	Diameter	mm	130	130	150	150
	Height	mm	80	80	90	90
	Pitch Circle	mm	100	100	110	110
Mechanical Data	Rated Force Fx	N	5000	15000	2000	4000
	Rated Force Fy	N	5000	15000	2000	4000
	Rated Force Fz	N	15000	50000	5000	10000
	Rated Torque Mx	Nm	500	1200	200	500
	Rated Torque My	Nm	500	1200	200	500
	Rated Torque Mz	Nm	500	1200	200	500
	Operating Force Fx	N	15000	45000	6000	12000
	Operating Force Fy	N	15000	45000	6000	12000
	Operating Force Fz	N	45000	100000	15000	30000
	Bending Moment Limit Mx	Nm	1500	2400	400	1000
	Bending Moment Limit My	Nm	1500	2400	400	1000
Bending Moment Limit Mz	Nm	1500	3600	600	1500	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D130 5kN/500Nm	K6D130 15kN/1.2kNm	K6D150 2kN/200Nm	K6D150 4kN/500Nm	
Electrical Data	Rated Characteristic Value Fx	mV/V	0.8	0.8	0.8	0.8	
	Rated Characteristic Value Fy	mV/V	0.8	0.8	0.8	0.8	
	Rated Characteristic Value Fz	mV/V	0.8	0.9	0.8	0.8	
	Rated Characteristic Value Mx	mV/V	0.8	1	0.8	0.8	
	Rated Characteristic Value My	mV/V	0.8	1	0.8	0.8	
	Rated Characteristic Value Mz	mV/V	0.8	0.8	0.8	0.8	
	Smallest display step with BX3 (Noise amplitude)						
	Resolution Fx	N	1.2500	3.7500	0.5000	1.0000	
	Resolution Fy	N	1.2500	3.7500	0.5000	1.0000	
	Resolution Fz	N	3.7500	11.1111	1.2500	2.5000	
	Resolution Mx	Nm	0.1250	0.2400	0.0500	0.1250	
	Resolution My	Nm	0.1250	0.2400	0.0500	0.1250	
	Resolution Mz	Nm	0.1250	0.3000	0.0500	0.1250	
	Smallest display step with BX8 (Noise amplitude)						
	Resolution Fx	N	0.2500	0.7500	0.1000	0.2000	
	Resolution Fy	N	0.2500	0.7500	0.1000	0.2000	
	Resolution Fz	N	0.7500	2.2222	0.2500	0.5000	
	Resolution Mx	Nm	0.0250	0.0480	0.0100	0.0250	
Resolution My	Nm	0.0250	0.0480	0.0100	0.0250		
Resolution Mz	Nm	0.0250	0.0600	0.0100	0.0250		
Characteristics	Origin		B; C	B; C	B; C	B; C	
	Connection		CG; MP11	CG; MP11	MP11	MP11	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D150 10kN/1kNm	K6D150 30kN/3kNm	K6D154 50N/5Nm	K6D154 100N/10Nm
Sensor Type	Design		FT Sensor	FT Sensor	FT Sensor	FT Sensor
	Measuring Principle		6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge
	Construction		6x Pillar	6x Pillar	6x Pillar	6x Pillar
	Material		Alloy	Steel 1.4542	Alloy	Alloy
	Weight	kg			1.600	1.600
Dimensions	Diameter	mm	150	150	154	154
	Height	mm	90	90	100	100
	Pitch Circle	mm	110	110	132	132
Mechanical Data	Rated Force Fx	N	10000	30000	50	100
	Rated Force Fy	N	10000	30000	50	100
	Rated Force Fz	N	25000	90000	100	200
	Rated Torque Mx	Nm	1000	3000	5	10
	Rated Torque My	Nm	1000	3000	5	10
	Rated Torque Mz	Nm	1000	3000	5	10
	Operating Force Fx	N	30000	90000	200	400
	Operating Force Fy	N	30000	90000	200	400
	Operating Force Fz	N	75000	270000	600	1200
	Bending Moment Limit Mx	Nm	2000	6000	25	50
	Bending Moment Limit My	Nm	2000	6000	25	50
Bending Moment Limit Mz	Nm	3000	9000	25	50	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D150 10kN/1kNm	K6D150 30kN/3kNm	K6D154 50N/5Nm	K6D154 100N/10Nm	
Electrical Data	Rated Characteristic Value Fx	mV/V	0.8	0.8	0.56	0.52	
	Rated Characteristic Value Fy	mV/V	0.8	0.8	0.56	0.52	
	Rated Characteristic Value Fz	mV/V	0.8	0.8	0.32	0.32	
	Rated Characteristic Value Mx	mV/V	0.8	0.8	0.4	0.44	
	Rated Characteristic Value My	mV/V	0.8	0.8	0.4	0.44	
	Rated Characteristic Value Mz	mV/V	0.8	0.8	0.4	0.4	
	Smallest display step with BX3 (Noise amplitude)						
	Resolution Fx	N	2.5000	7.5000	0.0179	0.0385	
	Resolution Fy	N	2.5000	7.5000	0.0179	0.0385	
	Resolution Fz	N	6.2500	22.5000	0.0625	0.1250	
	Resolution Mx	Nm	0.2500	0.7500	0.0025	0.0045	
	Resolution My	Nm	0.2500	0.7500	0.0025	0.0045	
	Resolution Mz	Nm	0.2500	0.7500	0.0025	0.0050	
	Smallest display step with BX8 (Noise amplitude)						
	Resolution Fx	N	0.5000	1.5000	0.0036	0.0077	
	Resolution Fy	N	0.5000	1.5000	0.0036	0.0077	
	Resolution Fz	N	1.2500	4.5000	0.0125	0.0250	
	Resolution Mx	Nm	0.0500	0.1500	0.0005	0.0009	
Resolution My	Nm	0.0500	0.1500	0.0005	0.0009		
Resolution Mz	Nm	0.0500	0.1500	0.0005	0.0010		
Characteristics	Origin		B; C	B; C	B; C	B; C	
	Connection		MP11	MP11	UP13	UP13	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D154 200N/20Nm	K6D154 500N/50Nm	K6D175 10kN/1kNm	K6D175 20kN/2kNm
Sensor Type	Design		FT Sensor	FT Sensor	FT Sensor	FT Sensor
	Measuring Principle		6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge	6x Strain Gage Full Bridge
	Construction		6x Pillar	6x Pillar	6x Pillar	6x Pillar
	Material		Alloy	Alloy	Steel 1.4542	Steel 1.4542
	Weight	kg	1.600	1.600		
Dimensions	Diameter	mm	154	154	175	175
	Height	mm	100	100	110	110
	Pitch Circle	mm	132	132	164	164
Mechanical Data	Rated Force Fx	N	200	500	10000	20000
	Rated Force Fy	N	200	500	10000	20000
	Rated Force Fz	N	500	1000	20000	50000
	Rated Torque Mx	Nm	20	50	1000	2000
	Rated Torque My	Nm	20	50	1000	2000
	Rated Torque Mz	Nm	20	50	2000	5000
	Operating Force Fx	N	800	2500	30000	60000
	Operating Force Fy	N	800	2500	30000	60000
	Operating Force Fz	N	3000	7000	80000	200000
	Bending Moment Limit Mx	Nm	100	250	3000	6000
	Bending Moment Limit My	Nm	100	250	3000	6000
	Bending Moment Limit Mz	Nm	100	250	6000	15000

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D154 200N/20Nm	K6D154 500N/50Nm	K6D175 10kN/1kNm	K6D175 20kN/2kNm	
Electrical Data	Rated Characteristic Value Fx	mV/V	0.52	0.4	0.68	0.6	
	Rated Characteristic Value Fy	mV/V	0.52	0.4	0.68	0.6	
	Rated Characteristic Value Fz	mV/V	0.36	0.3	0.45	0.5	
	Rated Characteristic Value Mx	mV/V	0.44	0.4	0.64	0.6	
	Rated Characteristic Value My	mV/V	0.44	0.4	0.64	0.6	
	Rated Characteristic Value Mz	mV/V	0.4	0.4	0.64	0.6	
	Smallest display step with BX3 (Noise amplitude)						
	Resolution Fx	N	0.0769	0.2500	2.9412	6.6667	
	Resolution Fy	N	0.0769	0.2500	2.9412	6.6667	
	Resolution Fz	N	0.2778	0.6667	8.8889	20.0000	
	Resolution Mx	Nm	0.0091	0.0250	0.3125	0.6667	
	Resolution My	Nm	0.0091	0.0250	0.3125	0.6667	
	Resolution Mz	Nm	0.0100	0.0250	0.6250	1.6667	
	Smallest display step with BX8 (Noise amplitude)						
	Resolution Fx	N	0.0154	0.0500	0.5882	1.3333	
	Resolution Fy	N	0.0154	0.0500	0.5882	1.3333	
	Resolution Fz	N	0.0556	0.1333	1.7778	4.0000	
	Resolution Mx	Nm	0.0018	0.0050	0.0625	0.1333	
	Resolution My	Nm	0.0018	0.0050	0.0625	0.1333	
	Resolution Mz	Nm	0.0020	0.0050	0.1250	0.3333	
	Characteristics	Origin		B; C	B; C	B; C	B; C
Connection			UP13	UP13	UP13	UP13	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D175 50kN/5kNm	K6D225 50kN/10kNm	K6D225 100kN/15kNm	K6D225 200kN/20kNm
Sensor Type	Design		FT Sensor	FT Sensor	FT Sensor	FT Sensor
	Measuring Principle		6x Strain Gage Full Bridge	12x DMS Vollbrücke / 12x strain gauge full bridge	12x DMS Vollbrücke / 12x strain gauge full bridge	12x DMS Vollbrücke / 12x strain gauge full bridge
	Construction		6x Pillar	6x Pillar	6x Pillar	6x Pillar
	Material		Steel 1.4542	Steel 1.4542	Steel 1.4542	Steel 1.4542
	Weight	kg				
Dimensions	Diameter	mm	175	225	225	225
	Height	mm	110	140	140	140
	Pitch Circle	mm	164	180	180	180
Mechanical Data	Rated Force Fx	N	50000	50000	100000	200000
	Rated Force Fy	N	50000	50000	100000	200000
	Rated Force Fz	N	100000	100000	250000	500000
	Rated Torque Mx	Nm	5000	10000	15000	20000
	Rated Torque My	Nm	5000	10000	15000	20000
	Rated Torque Mz	Nm	10000	10000	15000	20000
	Operating Force Fx	N	150000	100000	200000	400000
	Operating Force Fy	N	150000	100000	200000	400000
	Operating Force Fz	N	400000	200000	500000	1000000
	Bending Moment Limit Mx	Nm	15000	45000	45000	60000
	Bending Moment Limit My	Nm	15000	45000	45000	60000
	Bending Moment Limit Mz	Nm	30000	45000	45000	60000

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D175 50kN/5kNm	K6D225 50kN/10kNm	K6D225 100kN/15kNm	K6D225 200kN/20kNm	
Electrical Data	Rated Characteristic Value Fx	mV/V	0.7	0.5	1	1	
	Rated Characteristic Value Fy	mV/V	0.7	0.5	1	1	
	Rated Characteristic Value Fz	mV/V	0.52	0.35	0.7	0.7	
	Rated Characteristic Value Mx	mV/V	0.8	0.5	0.7	0.7	
	Rated Characteristic Value My	mV/V	0.8	0.5	0.7	0.7	
	Rated Characteristic Value Mz	mV/V	0.65	0.5	0.7	0.7	
	Smallest display step with BX3 (Noise amplitude)						
	Resolution Fx	N	14.2857	20.0000	20.0000	40.0000	
	Resolution Fy	N	14.2857	20.0000	20.0000	40.0000	
	Resolution Fz	N	38.4615	57.1429	71.4286	142.8571	
	Resolution Mx	Nm	1.2500	4.0000	4.2857	5.7143	
	Resolution My	Nm	1.2500	4.0000	4.2857	5.7143	
	Resolution Mz	Nm	3.0769	4.0000	4.2857	5.7143	
	Smallest display step with BX8 (Noise amplitude)						
	Resolution Fx	N	2.8571	4.0000	4.0000	8.0000	
	Resolution Fy	N	2.8571	4.0000	4.0000	8.0000	
	Resolution Fz	N	7.6923	11.4286	14.2857	28.5714	
Resolution Mx	Nm	0.2500	0.8000	0.8571	1.1429		
Resolution My	Nm	0.2500	0.8000	0.8571	1.1429		
Resolution Mz	Nm	0.6154	0.8000	0.8571	1.1429		
Characteristics	Origin		B; C	C	C	C	
	Connection		UP13	UP13	UP13	UP13	

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D300 400kN/40kNm
Sensor Type	Design		FT Sensor
	Measuring Principle		12x Strain Gage Full Bridge
	Construction		6x Pillar
	Material		Steel 1.4542
	Weight	kg	
Dimensions	Diameter	mm	300
	Height	mm	175
	Pitch Circle	mm	220
Mechanical Data	Rated Force Fx	N	400000
	Rated Force Fy	N	400000
	Rated Force Fz	N	800000
	Rated Torque Mx	Nm	40000
	Rated Torque My	Nm	40000
	Rated Torque Mz	Nm	40000
	Operating Force Fx	N	800000
	Operating Force Fy	N	800000
	Operating Force Fz	N	1600000
	Bending Moment Limit Mx	Nm	80000
	Bending Moment Limit My	Nm	80000
	Bending Moment Limit Mz	Nm	80000

Comparison Table for 6-Axis Sensors

	Technical Data	Unit	K6D300 400kN/40kNm	
Electrical Data	Rated Characteristic Value Fx	mV/V	0.8	
	Rated Characteristic Value Fy	mV/V	0.8	
	Rated Characteristic Value Fz	mV/V	0.4	
	Rated Characteristic Value Mx	mV/V	0.5	
	Rated Characteristic Value My	mV/V	0.5	
	Rated Characteristic Value Mz	mV/V	0.5	
	Smallest display step with BX3 (Noise amplitude)			
	Resolution Fx	N	100.0000	
	Resolution Fy	N	100.0000	
	Resolution Fz	N	400.0000	
	Resolution Mx	Nm	16.0000	
	Resolution My	Nm	16.0000	
	Resolution Mz	Nm	16.0000	
	Smallest display step with BX8 (Noise amplitude)			
	Resolution Fx	N	20.0000	
	Resolution Fy	N	20.0000	
	Resolution Fz	N	80.0000	
	Resolution Mx	Nm	3.2000	
Resolution My	Nm	3.2000		
Resolution Mz	Nm	3.2000		
Characteristics	Origin		C	
	Connection		UP13	

Comparison Table for 6-Axis Sensors

Characteristic	Abbreviation	Meaning
Origin	A	Origin in the center of the sensor (only for 6A68); During the calibration, the forces Fx, Fy, Fz are introduced in such way that their lines of action intersect at the center of the sensor.
	B	The origin of the coordinate system is located outside the sensor in the level of the bearing surface and in the center of the centering collar. Method B is the standard calibration. An engraving with the coordinate axes is provided to displace the height of the centering collar.
	C	The origin of the coordinate system is displaced outside the sensor, on the central axis of the sensor (z-axis). A calibration, which largely corresponds to the installation situation, allows measurement errors to be reduced by means of crosstalk. For the sensors 6A68, 6A80, 6A110, 6A130 a calibration is possible at a distance of 140mm from the surface (with reduced forces).
Temperature Compensation	Std	Standard temperature compensation, especially for miniature sensors 6A27, 6A40. The drift of the calibration factors is approx. +0.07% RD/°C for sensors made of aluminum and +0.02% RD/°C for sensors made of steel. In the temperature range of 20°C ±10°C, the drift of the calibration factors is ±0.7% RD (of the actual value) for sensors made of aluminum and ±0.2% RD (of the actual value) for those of steel. The zero signal of the sensors in the unloaded state is in the range of ±1.5 mV/V. The zero signal in the unloaded state is adjusted by the evaluation electronics. The drift of the zero signal is ±0.1% FS/°C.
	ITC	Typical temperature compensation for 6-axis force/torque sensors. The drift of the calibration factors is approx. ±0.005% RD/°C. The zero signal of the sensors in the unloaded state is in the range of -0.05 mV/V to +0.05 mV/V. The drift of the zero signal is approx. ±0.01% FS/°C.

Comparison Table for 6-Axis Sensors

Characteristic	Abbreviation	Meaning
	CG	<p>Cable gland. The sensor is supplied with a 5m connection cable.</p> <p>For connection to the GSV-8DS SubD44HD measuring amplifier, a version with a factory-installed Sub-D44 HD connector is recommended.</p> <p>For connection to the GSV-8AS measuring amplifier (or GSV-1A8USB M16/6A), a version with a factory-installed M16 circular connector is recommended.</p>
	MP11	<p>Extremely robust 24-pin connector in IP68 design from Fischer. Optionally integrated into the sensor for sensors 6ADF, 6A80, 6A110, 6A130.</p> <p>Connection cable, 5m, MP11 (f) to the sensor, Sub-D44 HD (m) to the BX8 Sub-D44HD.</p> <p>US: http://www.fischerconnectors.com/us/en/products/minimax</p>

Comparison Table for 6-Axis Sensors

Characteristic	Abbreviation	Meaning
Connection	M16	<p>24-pole round plug connector, integrated in the 6A154 and 6A175 sensors Connection sensor-measuring amplifier: Connection cable, 5m, M16 (f) to the sensor, Sub-D44HD (m) to the BX8 SubD44HD Connection cable, 5m, M16 (f) to the sensor, M16 (m) to the BX8AS or BX3USB M16/6A</p> <p>Round plug connector (f) to the sensor: M16 angled socket, 24-pole, female, D=6-8mm binder-Art.:99 5696 75 24 M16-cable socket, 24-pole, female, D=4-6mm, binder-Art.:99 5496 15 24 M16-cable socket, 24-pole, female, D=6-8mm binder-Art.:99 5696 15 24</p> <p>Round plug connector (m) to the measuring amplifier: Binder-Art.:99 5495 00 24 for cable diameter 4-6mm Binder-Art.:99 5695 00 24 for cable diameter 6-8mm</p> <p>Built-in socket (f) in the measuring amplifier: Binder-Art.: 09-0498-80-24, series 723, 24pole; assembled with single strands 24x 0.14 120mm</p> <p>Built-in socket (m) in sensor: Binder-Art.: 09-0497-00-24, series 723, 24pole; with single strands 24x0.027</p> <p>US: https://www.binder-connector.com/en/products/miniature-circular-connectors/m16-ip67/</p>

Comparison Table for 6-Axis Sensors

Characteristic	Abbreviation	Meaning
	M12	<p>Robust 5-pole round plug connector, integrated with the sensors 6ADF100-50e and 6ADF80-40e</p> <p>Connection Sensor-Windows-PC with BueDAQ: Connection cable Extension 5p/f/M12/5p/m/M12/5,0 (ME Art: 5625), Phoenix-Art:1536120 + 6ADF-CAN-Adapter + PCAN-USB-Adapter</p>
	UP	<p>27-pin round connector UP13, integrated in 6A225 and 6A300</p> <p>Connection cable, 5 m, UP13 (m) to the sensor, Sub-D44 HD (m) to the GSV-8DS Sub-D44HD</p>

Comparison Table for 6-Axis Sensors

Abb. 1: Origin of the Coordinate System

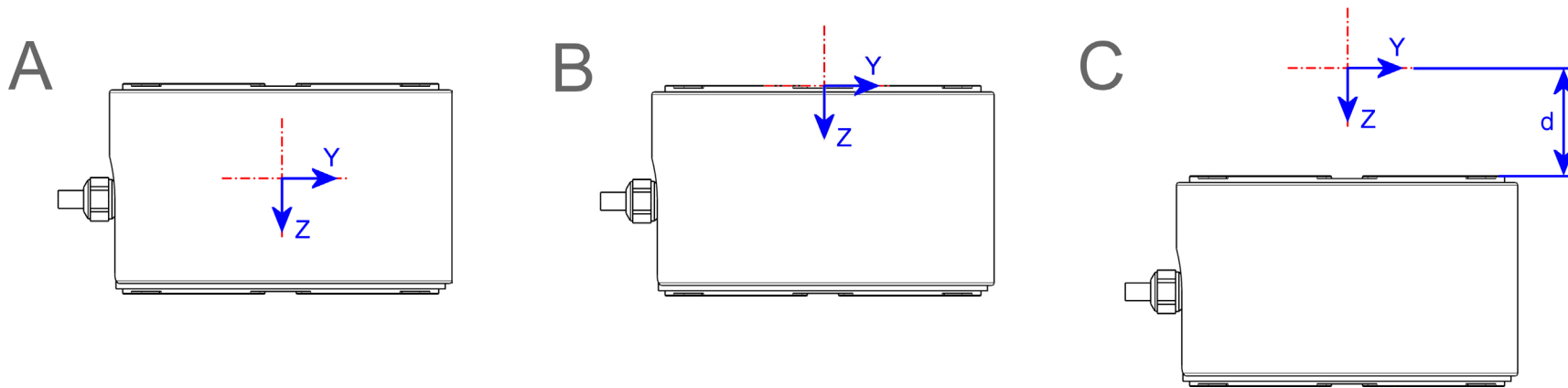
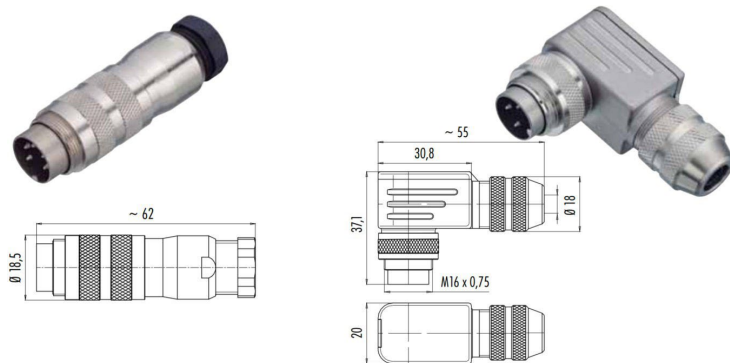


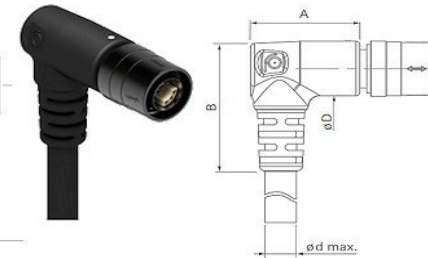
Abb. 2: Circular Connector Binder M16 und Fischer MP11



STRAIGHT OVERMOLDING



RIGHT-ANGLE OVERMOLDING



Angle	$\varnothing d$	$\varnothing D$	A	B
Straight	$\varnothing 6.7$	$\varnothing 12.8$	30	-
90°	$\varnothing 6.7$	$\varnothing 12.8$	23	30