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Torque sensor

Torque sensor is a kind of precision measuring instrument for measuring various torque, rotational speed and mechanical power. It is mainly used in the detection of motor, engine and other rotating power equipment Locomotive, automobile, aircraft, mining machine Lj in the torque and power detection and so on . Whether it is engineering manufacturing or transpoDžation industLj or scientillc research institutes and other places have torque sensors.

Application

KDEV-N-11A

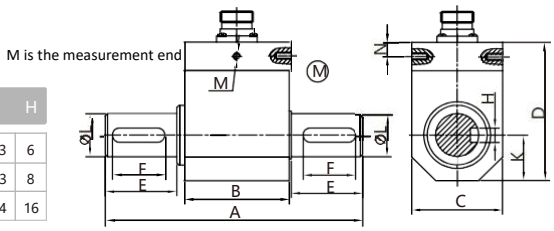


Product characteristics

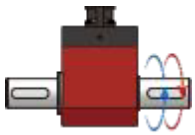
- Large range torque measurement, can be measured positive and negative torque values, imported chips and components, widely used in various torque measurement and control, speed up to 1800 rpm.

- **Mounting dimensions**

Measuring range	A	ΦL	B	C	D	E	F	K	N	M	H
0-100 NM	108	18	44	38	58	30	22	19	6	3-M3	6
200-500NM	143	28	56	53	73.5	40	30	27	6	3-M3	8
800-1000NM	221	50	97	90	125	60	55	45	33	4-M4	16



- **Force mode**



Technical parameters

Measuring range	0-10/20/30/50/100/200/500/1000 NM		
Sensitivity	1.5±10%mV/V	Sensitivity temperature effect	±0.03%F.S/10℃
Zero output	±2%F.S	Zero temperature effect	±0.03%F.S/10℃
Non-linear	0.2% F.S.	Temperature compensation range	-10~60℃
Lag behind	≤±0.05%F.S.	Operating temperature range	-20~80℃
Repeatability	≤±0.05%F.S.	Excitation voltage	10~ 12VDC
Creep	±0.03%F.S/30min	SAFE overload range	150%F.S
Input impedance	750±10Ω	Limit Overload Range	200%F.S
Output impedance	700±5Ω	Cable specifications	Φ5mm×3m
Insulation Resistance	≥5000MΩ/100V DC	Electrical connection	Red /E + , black /E-, green /S + , white /S-

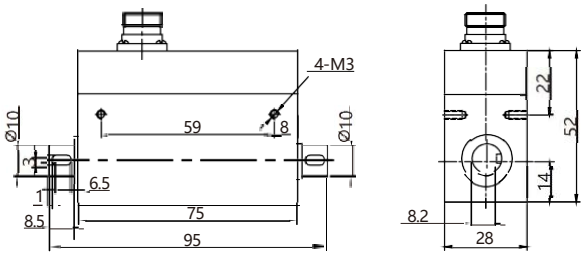
KDEV-N-11B



Product characteristics

- The Resistance Strain Gage is an integrated product composed of sensitive element and integrated circuit, with high precision and stable and reliable perf ormance. Output positive and negative torque signals, the two ends of the key connection, speed not more than 1800 rpm.

- **Mounting dimensions**



- **Force mode**



技术参数 / Technical parameters

Measuring range	0-0.1/0.2/0.3/0.5/1/2/3/5 NM		
Output sensitivity	1.0~1.5mV/V	Sensitivity temperature effect	±0.1%F.S/10℃
Zero output	±1%F.S	Zero temperature effect	±0.1%F.S/10℃
Non-linear	0.2% F.S.	Temperature compensation range	-10~60℃
Lag behind	0.2%F.S.	Operating temperature range	-30~60℃
Repeatability	0.1%F.S.	Excitation voltage	12VDC
Creep	±0.03%F.S/30min	SAFE overload range	120%F.S
Input impedance	350±10Ω	Limit Overload Range	150%F.S
Output impedance	350±10Ω	Cable specifications	Φ5mm×3m
Insulation Resistance	≥2000MΩ/100V DC	Electrical connection	Red /E + , black /E-, green /S + , white /S-

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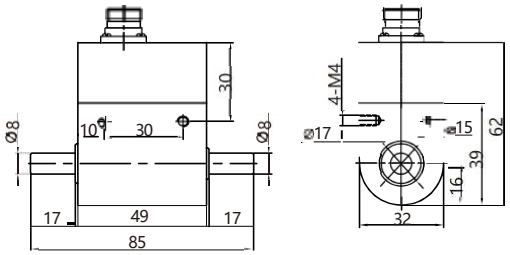
KDEV-N-1A



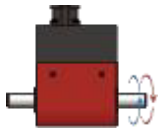
Product characteristics

- The Resistance Strain Gage is an integrated product composed of sensitive element and integrated circuit, with high precision and stable and reliable
- performance. No collector ring and other wear parts, can be high-speed long-time operation, output positive and negative torque signal. Up to 1800 rpm.

- **Mounting dimensions**



- **Force mode**



Technical parameters

Measuring range	0-0.1/0.2/0.3/0.5/1/2/3/5 NM		
Sensitivity	1.5±10%mV/V	Sensitivity temperature effect	±0.03%F.S/10℃
Zero output	±2%F.S	Zero temperature effect	±0.03%F.S/10℃
Non-linear	0.2% F.S.	Temperature compensation range	-10~60℃
Lag behind	≤±0.05%F.S.	Operating temperature range	-20~65℃
Repeatability	≤±0.05%F.S.	Excitation voltage	10~ 12VDC
Creep	±0.03%F.S/30min	SAFE overload range	150%F.S
Input impedance	750±10Ω	Limit Overload Range	200%F.S
Output impedance	700±5Ω	Cable specifications	Φ5mm×3m
Insulation Resistance	≥5000MΩ/100V DC	Electrical connection	Red /E + , black /E-, green /S + , white /S-

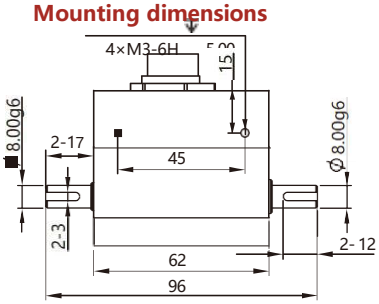


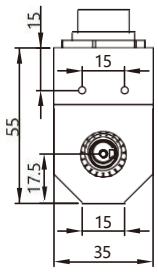
KDEV-N-12A

Product characteristics

- Electromagnetic coupling coil to achieve power and measurement signal wireless transmission, 10-pin aviation plug, set torque signal frequency signal, analog signal, speed signal, RS485 digital signal output. Imported bearings,
- longer life, higher limit speed, higher load resistance, less friction. One- piece shell, higher hardness, less deformation, more stable performance, longer life.

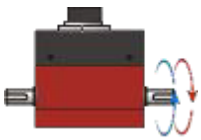
- **Mounting dimensions**







- **Force mode**



Technical parameters

Measuring range	0.1/0.2/0.5/1/2/5 NM		
Speed Range	≤8000 rpm	OperatingTemperature	-20~80℃
Torque signal	RS485/±10V/±5V/0-10V/0-5V/5-15KHz	Temp.e ect on zero	0.15%F.S./10℃
Speed signal	RS485/60 pulse signal	Temp.e ect on output	0.15%F.S./10℃
Precision	±0.2%F.S	Power supply	24VDC±15%
Overloadcapacity	150%	Material Quality	Shell: aluminum; Shaft core: 17-4
Frequency response	1ms	Cable size	Φ6×3000mm

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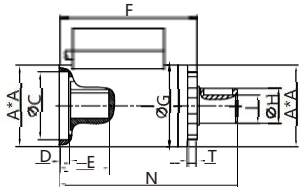
KDEV-N-1E

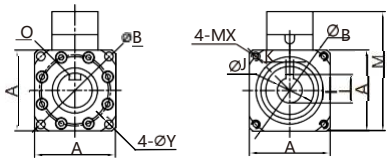


Product characteristics

- The Resistance Strain Gage is an integrated product composed of sensitive element and integrated circuit, with high precision and stable and reliable perf
- ormance. Output positive and negative torque signals, the two ends of the key connection, speed up to 1800 rpm.

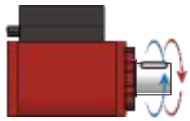
Mounting dimensions





NM	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	T	X	Y
0-50	42	50	35	5	26	73	42	18	14.5	13	4	14.8	63	93	40×40	5	M4	4.5
100	62	70	50	7	39	91	62	18	14.5	16	6	18.3	77	122	60×60	7	M7	5.5

Force mode



Technical parameters

Measuring range	0-5/10/20/30/50/100 NM		
Sensitivity	1.5mV/V±10%F.S.	Sensitivity temperature effect	±0.03%F.S/10℃
Zero output	±2%F.S	Zero temperature effect	±0.03%F.S/10℃
Non-linear	±0.1, ±0.2%F.S.	Temperature compensation range	-10~60℃
Lag behind	≤±0.05%F.S.	Operating temperature range	-20~75℃
Repeatability	≤±0.05%F.S.	Excitation voltage	5-10VDC
Creep	±0.03%F.S/30min	SAFE overload range	150%F.S
Input impedance	350±20Ω	Limit Overload Range	200%F.S
Output impedance	350±10Ω	Cable specifications	Φ5mm×3m
Insulation Resistance	≥5000MΩ/100V DC	Electrical connection	Red /E + , black /E-, green /S + , white /S-

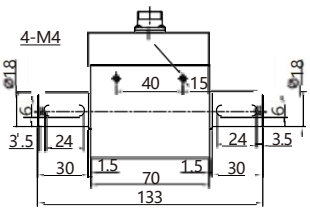
KDEV-N-4A

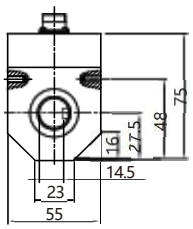


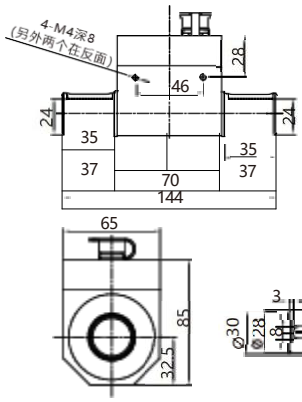
Product characteristics

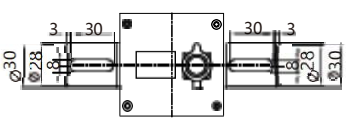
- Non-contact dynamic torque sensor, rotating speed up to 8000 rpm, measuring speed and power; ultra-low wear, often used for long-term operation of the
- measurement.

Mounting dimensions

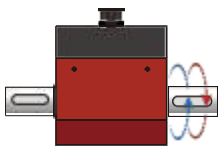








Force mode



Technical parameters

Measuring range	0~5/10/20/50/100NM	Annual stability	0.25%/
Power supply	±24VDC±15%	Insulation resistance	≥2000MΩ (100VDC)
Torque signal	±5VDC;±10V;4-20mA	Ambient temperature	-10~50℃
Speed range	≤8000 rpm	Relative temperature	0~90% RH
Speed signal	Random band	Overload capacity	200%
Precision	±0.2%F.S.	Frequency response	1ms
Cable specifications	Φ5mm×3m		

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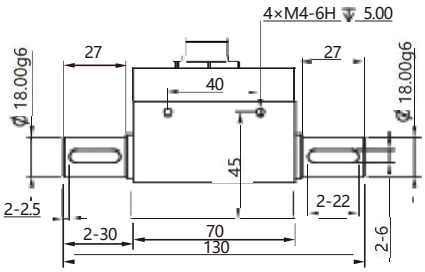
KDEV-N-41A

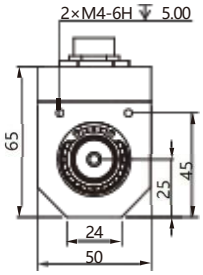


Product characteristics

- Electromagnetic coupling coil to achieve power and measurement signal wireless transmission, 10-pin aviation plug, set torque signal frequency signal, analog signal, speed signal, RS485 digital signal output. Imported bearings, longer life, higher limit
- speed, higher load resistance, less friction. One- piece forming shell, higher hardness, small size, high precision performance, reliable stability.

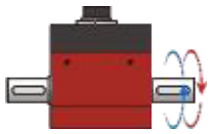
• Mounting dimensions







• Force mode



Technical parameters

Measuring range	5/10/20/50/100 NM		
Speed Range	≤8000rev/ min	Operating Temperature	-20~80℃
Torque signal	RS485/±10V/±5V/0-10V/0-5V/5-15KHz	Temp.e ect on zero	0.15%F.S./10℃
Speed signal	RS485/60 **pulse signal**	Temp.e ect on output	0.15%F.S./10℃
Precision	±0.2%F.S	Power supply	24VDC±15%
Overload capacity	150%	Material Quality	Shell: Aluminum; Axis core:17-4
Frequency response	1ms	Cable size	Φ6×3000mm

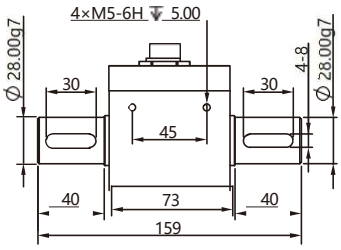
KDEV-N-41B

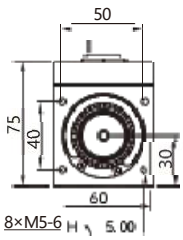


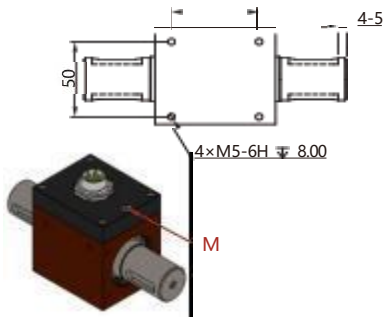
Product characteristics

- Electromagnetic coupling coil to achieve power and measurement signal wireless transmission, 10-pin aviation plug, set torque signal frequency signal, analog signal, speed signal, RS485 digital signal output. Imported bearings, longer life, higher limit
- speed, higher load resistance, less friction. One- piece shell, higher hardness, less deformation, more stable performance, longer life.

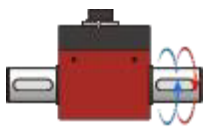
• Mounting dimensions







• Force mode



Technical parameters

Measuring range	200/500 NM		
Speed Range	≤8000rev/ min	Operating Temperature	-20~80℃
Torque signal	RS485/±10V/±5V/0-10V/0-5V/5-15KHz	Temp.e ect on zero	0.15%F.S./10℃
Speed signal	RS485/60**pulse signal**	Temp.e ect on output	0.15%F.S./10℃
Precision	±0.2%F.S	Power supply	24VDC±15%
Overloadcapacity	150%	Material Quality	Shell: Aluminum; Axis core:17-4
Frequency response	1ms	Cable size	Φ6×3000mm

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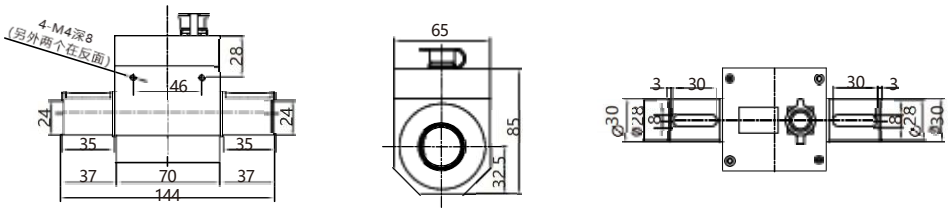
KDEV-N-4A2



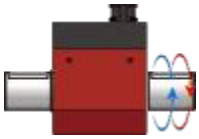
Product characteristics

- Large range non-contact dynamic torque sensor, ultra-low wear, high speed, can provide
- speed signals and power signals.

Mounting dimensions



Force mode



Technical parameters

Measuring range	200/300/500Nm	Annual stability	0.25%/**year**
Power supply	±24VDC±15%	Insulation resistance	≥2000MΩ (100VDC)
Torque signal	±5VDC;±10V;4-20mA	Ambient temperature	-10~50℃
Speed range	≤8000rev/ min	Relative temperature	0~90%RH
Speed signal	Random band	Overload capacity	200%
Precision	±0.2%F.S.	Frequency response	1ms
Cable specifications	Φ5mm×3m		

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KaiDC



Mounting dimensions

KDEV-N-43A/KDEV-N-43B

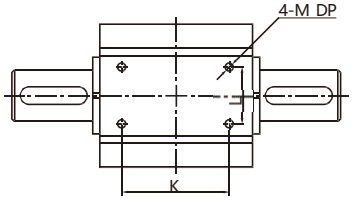
Product characteristics

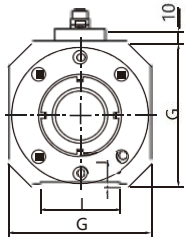
- Large range non-contact dynamic torque sensor, with a variety of range options, with body display, display content . Including: torque, speed, power; often used in a variety of larger torque measurement.

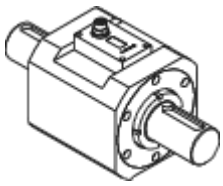
- Force mode

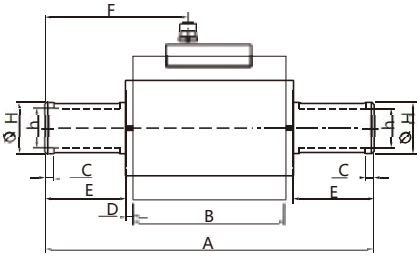


KDEV-N-43A



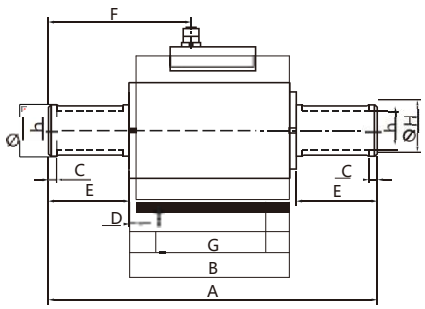


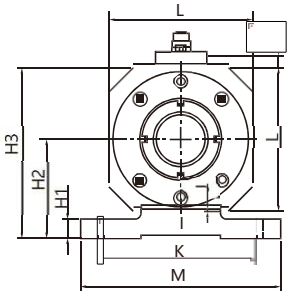




NM	A	B	C	D	E	F	G	ΦH	h	I	J	K	L	M	key (b×h×l×n)
5-100	185	111	3.5	7	30	73.5	70	18	14.5	36	1.5	80	22	4-M5 DP9	6×6×22×1
200-500	198	114	3	7	35	80	85	28	24	50	1.5	84	36	4-M5 DP11	8×7×30×1
1K-2K	288	134	5	7	70	125	125	45	34	70	1.5	94	50	4-M8 DP15	14×9×60×2
3K-5K	355	141	4	7	100	158.5	160	75	60	100	2.5	100	80	4-M10 DP18	20×12×93×2
Remarks: KDEV-J431 if speed is over 10000RPM, no key.															

KDEV-N-43B





量程NM	A	B	C	D	E	F	G	ΦH	h	J	K	L	M	H1	H2	H3	key (b×h×l×n)
5-100	185	111	3.5	7	30	73.5	80	18	14.5	6.5	83	70	100	10	53.5	88.5	6×6×22×1
200-500	198	114	3	7	35	80	84	28	24	6.5	97	85	114	10	61	103.5	8×7×30×1
1K-2K	288	134	5	7	70	125	94	45	34	9	142	125	175	18	89	151.5	14×9×60×2
3K-5K	355	141	4	7	100	158.5	100	75	60	11	181	160	220	20	110.5	190.5	20×12×93×2
Remarks: KDEV-J432 if speed is over 10000RPM, no key.																	

Technical parameters

Measuring range	5-5000NM	Compensation Temperature range	-10~+60℃
Torque output	10±5KHZ, 4-20mA,0±5/10VDC,0-5/10VDC, RS485	Operating TEMPERATURE	20~80℃
Precision	±0.1, 0.2% FS	Electrical connection	6-pin or 8-pin
Power supply	12-30VDC	Safety overload	200% RO
Zero temperature effect	±0.02%RO/℃	Shaft material	**stainless steel**
Range temperature effect	±0.02%RO/℃	Shell material	**aluminium**

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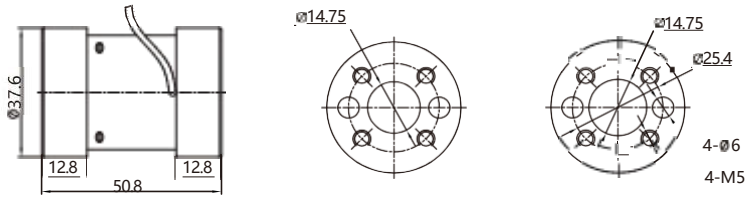
KDEV-N-50

Product characteristics

- Small size, easy to install flange structure, stainless steel or aluminum alloy structure, high accuracy, good stability, static torque testing equipment, torque wrench and other torque testing equipment.
-

- **Mounting dimensions**



- **Force mode**



Technical parameters

Measuring range	1/2/3/5/6/10/20/30/50/100/150 NM	Sensitivity temperature effect	±0.05%F.S/10℃
Composite Error	≤±0.1%, ≤±0.3%	Zero temperature effect	±0.05%F.S/10℃
Non-linear	0.2%	Temperature compensation range	-10~60℃
Sensitivity	1.5±10%mV/V	Operating temperature range	-20~80℃
Creep	±0.03%F.S/30min	Excitation voltage	5~ 12V
Zero output	±2.0%F.S	SAFE overload range	120%F.S
Input impedance	410±20Ω	Limit Overload Range	150%F.S
Output impedance	350±100Ω	Cable specifications	Φ3mm×3m
Insulation Resistance	≥5000MΩ/100V DC	Protection level	Ip65

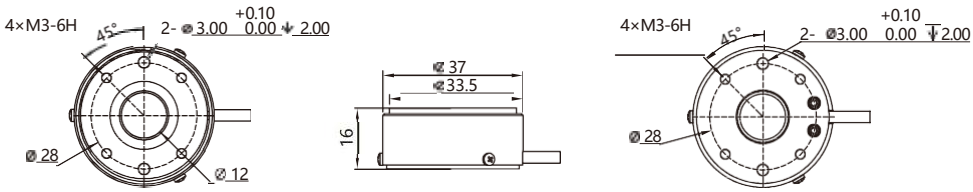


KDEV-N-501

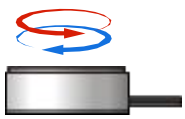
Product characteristics

- Static torque sensor is compact and easy to install, high precision, stable and reliable performance, protection class: IP66, for static, non continuous rotation
- torque value measurement.

- **Mounting dimensions**



- **Force mode**



技术参数 / Technical parameters

Measuring range	0.2/0.5/1/2/5/10 NM	Sensitivity temperature effect	±0.15%F.S/10℃
Composite Error	±0.1/0.3%F.S.	Zero temperature effect	±0.15%F.S/10℃
Non-linear	0.1/0.3%F.S.	Temperature compensation range	-10~40℃
Sensitivity	1.0±10%mV/V	Operating temperature range	-20~60℃
Creep	±0.03%F.S/30min	Excitation voltage	5~12V
Zero output	±2.0%F.S	SAFE overload range	120%F.S
Input impedance	350/750±10Ω	Limit Overload Range	150%F.S
Output impedance	350/700±5Ω	Cable specifications	Φ3mm×3m
Insulation Resistance	≥5000MΩ/100V DC	Material	**aluminium**/17-4

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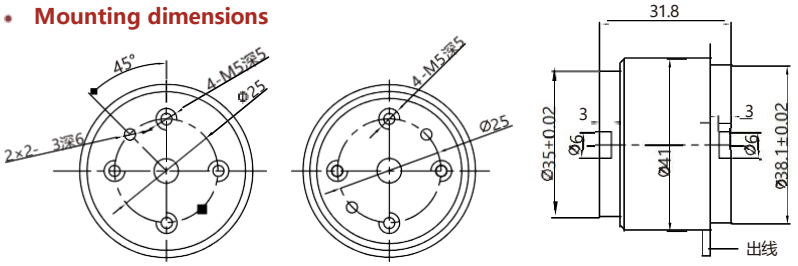
KDEV-N-50A

Product characteristics

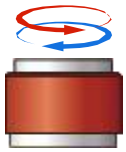
- High precision, stable performance, reliable, low range torque measurement, easy to install double Flange, using German technology and production equipment and advanced testing equipment.

Mounting dimensions



0-5NM	aluminium
10-50NM	steel

Force mode



Technical parameters

Measuring range	0-0.1/0.2/0.5/1/2/3/5/10/20/30/50 NM	Sensitivity temperature effect	±0.03%F.S/10℃
Composite Error	≤±0.1%, ≤±0.3%	Zero temperature effect	±0.03%F.S/10℃
Non-linear	0.2%	Temperature compensation range)	- 10~60℃
Sensitivity	1.5±10%mV/V	Operating temperature range)	-20~65℃
Creep	±0.03%F.S/30min	Excitation voltage	5~ 12V
Zero output	±2.0%F.S	SAFE overload range	150%F.S
Input impedance	350/750±10Ω	Limit Overload Range	200%F.S
Output impedance	350/700±5Ω	Cable specifications	Φ3mm×3m
Insulation Resistance	≥5000MΩ/100V DC	Protection level	Ip65



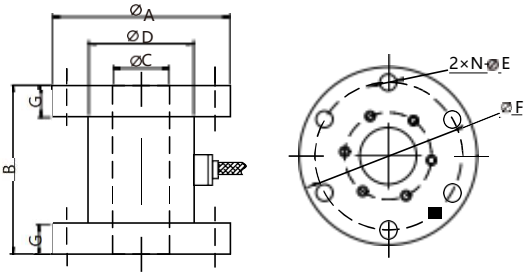
KDEV-N-5A

Product characteristics

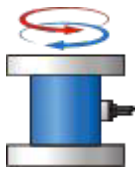
- Resistance strain as a sensitive element, integrated circuit products, high precision, stable performance, low-range torque measurement, easy to install and use, both ends are !ange connection.

Mounting dimensions

量程NM	A	B	C	D	E	F	N	G
5-50	69	65	/	41	6.5	57	6	12
100-300	69	65	22	41	6.5	57	6	12
500-1000	98	80	30	60	8.5	80	8	15
2000-5000	125	96	45	79	13	105	8	20



Force mode



Technical parameters

Measuring range	10/20/50/100/200/300/500/1000/2000/5000 NM	Sensitivity temperature effect	±0.05%F.S/10℃
Composite Error	≤±0.1%, ≤±0.3%	Zero temperature effect	±0.05%F.S/10℃
Non-linear	0.2%	Temperature compensation range	- 10~60℃
Sensitivity	1.5±10%mV/V	Operating temperature range	-20~65℃
Creep	±0.03%F.S/30min	Excitation voltage	5~ 12V
Zero output	±1.0%F.S	SAFE overload range	150%F.S
Input impedance	750±10Ω	Limit Overload Range	200%F.S
Output impedance	700±5Ω	Cable specifications	Φ5mm×3m
Insulation Resistance	≥5000MΩ/100V DC	Protection level	Ip65

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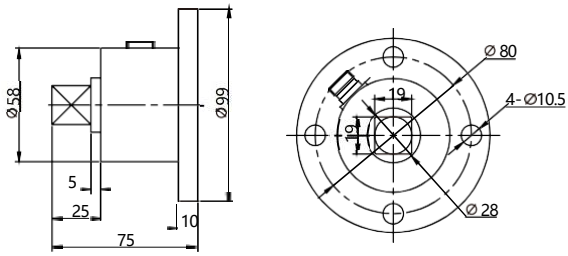
KDEV-N-5B

Product characteristics

- The resistance strain is made up of sensitive element and integrated circuit, with high precision and stable performance. One end is connected by square key, the other end is connected by !ange, so it is easy to install and use.

- **Mounting dimensions**



- **Force mode**



Technical parameters

Measuring range)	0-20/50/100/200/300/500 NM	Sensitivity temperature effect	±0.05%F.S/10℃
Composite Error	≤±0.1%, ≤±0.3%	Zero temperature effect	±0.05%F.S/10℃
Non-linear	0.2%	Temperature compensation range	-10~60℃
Sensitivity	1.5±10%mV/V	Operating temperature range	-20~65℃
Creep	±0.03%F.S/30min	Excitation voltage	5~ 12V
Zero output	±1.0%F.S	**SAFE overload range**	150%F.S
Input impedance	350/750±10Ω	Limit Overload Range	200%F.S
Output impedance	350/700±5Ω	Cable specifications	Φ5mm×3m
Insulation Resistance	≥5000MΩ/100V DC	Protection level	Ip65

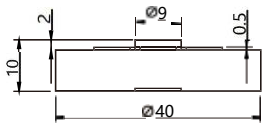


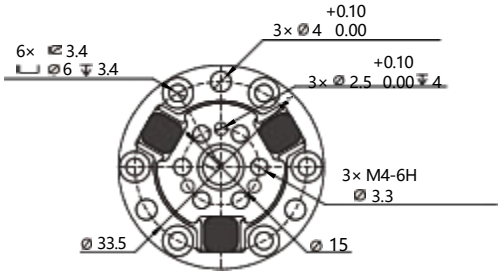
KDEV-N-5C

Product characteristics

- Adopt high-quality stainless steel material, disc structure, with reasonable structure design, high precision, good stability, small size, low height, easy installation and so on. It is suitable for measuring the torque value of various static and discontinuous rotation in disc connection, drilling rig and industrial automation.

- **Mounting dimensions**





- **Force mode**



Technical parameters

Measuring range	20/50/80/100 NM	Sensitivity temperature effect	±0.1%F.S/10℃
Composite Error	±0.5%F.S.	Zero temperature effect	±0.1%F.S/10℃
Non-linear	0.3%F.S.	Temperature compensation range	-10~40℃
Output sensitivity	1.0±10%mV/V	Operating temperature range	-20~60℃
Lag behind	0.05%F.S	Recommended excitation voltage	5~10V
Service life	Over 1 million times	Maximum excitation voltage	12V
Materials	**stainless steel**	SAFE overload range	120%F.S
Cable specifications	Φ3mm×3m	Limit Overload Range	150%F.S
Insulation Resistance	≥5000MΩ/100V DC	Protection level	Ip66

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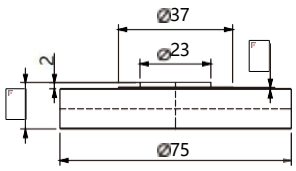
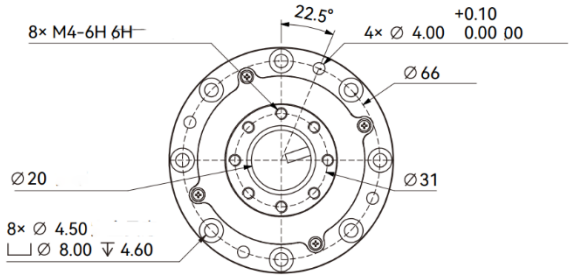
KDEV-N-5D

Product characteristics

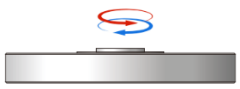
- The resistance strain is an integral product composed of sensitive element and integrated circuit, with high precision, stable and reliable performance, wide measurement range, static torque measurement, double !ange connection, easy installation and use. Torque sensor adopts German technology and production equipment and advanced testing equipment.

- **Mounting dimensions**





Force mode



技术参数 / Technical parameters

Measuring range	50/100/150 NM	Sensitivity temperature effect	±0.05%F.S/10℃
Composite Error	±0.5%F.S.	Zero temperature effect	±0.05%F.S/10℃
Non-linear	0.5%F.S.	Temperature compensation range	- 10~85℃
Output sensitivity	1.0±10%mV/V	Operating temperature range	-20~85℃
Lag behind	0.3%F.S	Recommended excitation voltage	10VDC
Service life	Over 2 million times	Maximum excitation voltage	12VDC
Materials)	17-4	SAFE overload range	150%F.S
Cable specifications	Φ3mm×3m	Limit Overload Range	200%F.S
Insulation Resistance	≥5000MΩ/100V DC	Protection level	Ip56

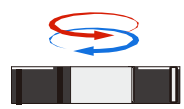


KDEV-N-5G

Product characteristics

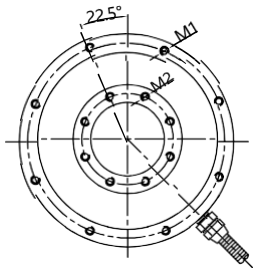
- Low height, large measuring range, convenient installation of !ange structure. Stainless steel structure, high precision, good stability, static torque testing equipment, torque wrench and other torque testing equipment.

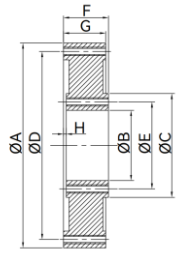
- **Force mode**



- **Mounting dimensions**

NM	ΦA	ΦB	ΦC	ΦD	ΦE	F	G	H	N1	M2
50/100/200	146	50	74	134	62	32	30	2	8-M6	8-M6
300/500	196	80	110	178	95	42	40	2	8-M10	8-M8
1000	214	100	130	196	116	43	40	2	8-M10	8-M10





Technical parameters

Measuring range	0-50/100/200/500/1000 NM	Sensitivity temperature effect	±0.03%F.S/10℃
Composite Error	≤±0.1%, ≤±0.3%	Zero temperature effect	±0.03%F.S/10℃
Non-linear	0.2%	Temperature compensation range	- 10~60℃
Sensitivity	1.5±10%mV/V	Operating temperature range	-20~65℃
Creep	±0.03%F.S/30min	Excitation voltage	5~12V
Zero output	±2.0%F.S	SAFE overload range	150%F.S
Input impedance	750±10Ω	Limit Overload Range	200%F.S
Output impedance	700±50Ω	Cable specifications	Φ3mm×3m
Insulation Resistance	≥5000MΩ/100V DC	Protection level	Ip65

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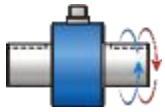
KDEV-N-6A



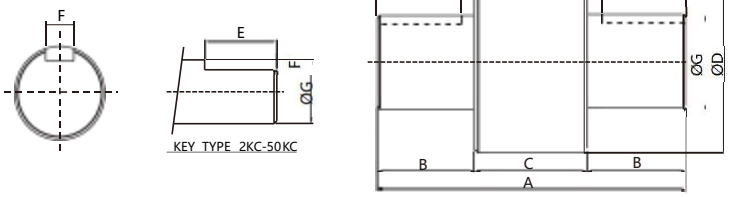
Product characteristics

- Resistance strain gauge principle, high precision, stable and reliable performance, low-range torque measurement , shaft connection, easy installation and use.

- **Force mode**



Mounting dimensions



Capacity	A	B	C	ΦD	E	F	G
2kgf-cm(0.196N-m)	75	20	35	34	15	1	8
5kgf-cm(0.490N-m)	75	20	35	34	15	1	8
10kgf-cm(0.981N-m)	75	20	35	34	15	1	8
20kgf-cm(1.96N-m)	75	20	35	34	15	1	8
30kgf-cm(2.942N-m)	75	20	35	34	15	1	12
50kgf-cm(4.903N-m)	75	20	35	34	15	1	12
1kgf-m(9.807N-m)	82	21	40	40	16	5*5	18
2kgf-m(19.61N-m)	82	21	40	40	16	5*5	18
2kgf-m(29.42N-m)	82	21	40	43	16	5*5	18
2kgf-m(49.03N-m)	82	21	40	43	16	5*5	18
2kgf-m(98.07N-m)	110	35	40	62	30	10*8	32
2kgf-m(196.1N-m)	110	35	40	62	30	10*8	32
2kgf-m(490.3N-m)	155	55	45	84	50	12*8	47
2kgf-m(980N-m)	155	55	45	84	50	12*8	47

Technical parameters

Measuring range	0-0.2/0. 5/1/2/ 3/5/10/20/30/50/ 100/2 00/500/ 10 00 NM	Sensitivity temperature effect	±0.03%F.S/10℃
Composite Error	≤±0.3%	Zero temperature effect	±0.03%F.S/10℃
Non-linear	0.2%	Temperature compensation range	- 10~60℃
Sensitivity	1.5±10%mV/V	Operating temperature range	-20~65℃
Creep	±0.03%F.S/30min	Excitation voltage	5~ 12V
Zero output	±2.0%F.S	SAFE overload range	150%F.S
Input impedance	750±10Ω	Limit Overload Range	200%F.S
Output impedance	700±50Ω	Protection level	Ip65
Insulation Resistance	≥5000MΩ/100V DC	Cable specifications	Φ4mm×3m

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