

CATALOG
grippers

TJ30 & TJ200 Series

3 Jaw Gripper



NUMATICS®

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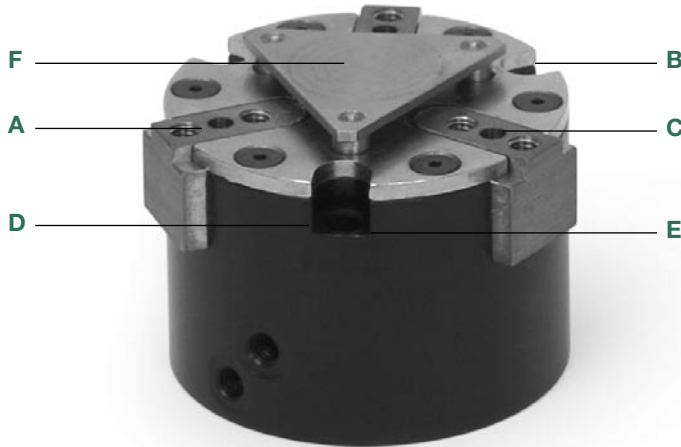
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TJ30 Series 3 Jaw Gripper

TJ30 3 jaw gripper provides high grip force in a compact design. Stripper plate option provides 9 lbs. of linear spring force to facilitate part insertion when gripper jaws release part.

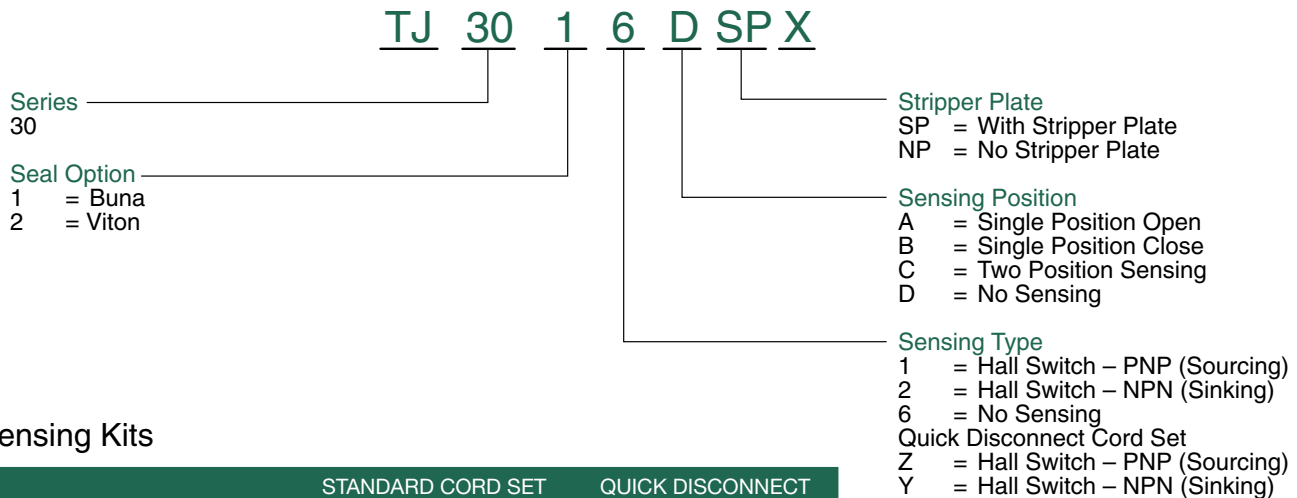
- A. Jaws are T-Slot bearing supported to prevent Jaw breakage and offer superior load bearing performance.
- B. Flexible mounting, thru hole for SHCS, tapped from opposite side.
- C. Dowel holes for locating.
- D. Hardcoated aluminum body.
- E. Sensing tracks for Hall effect switches sensing.
- F. Optional Stripper Plate.



Specifications

GRIP FORCE CLOSE 80 PSI	GRIP FORCE OPEN 80 PSI	STROKE	WEIGHT	DISPLACEMENT	MAXIMUM OPERATING PRESSURE
29 lbs	26 lbs	0.30	9 oz	0.35 cu in	120 psi

How To Order



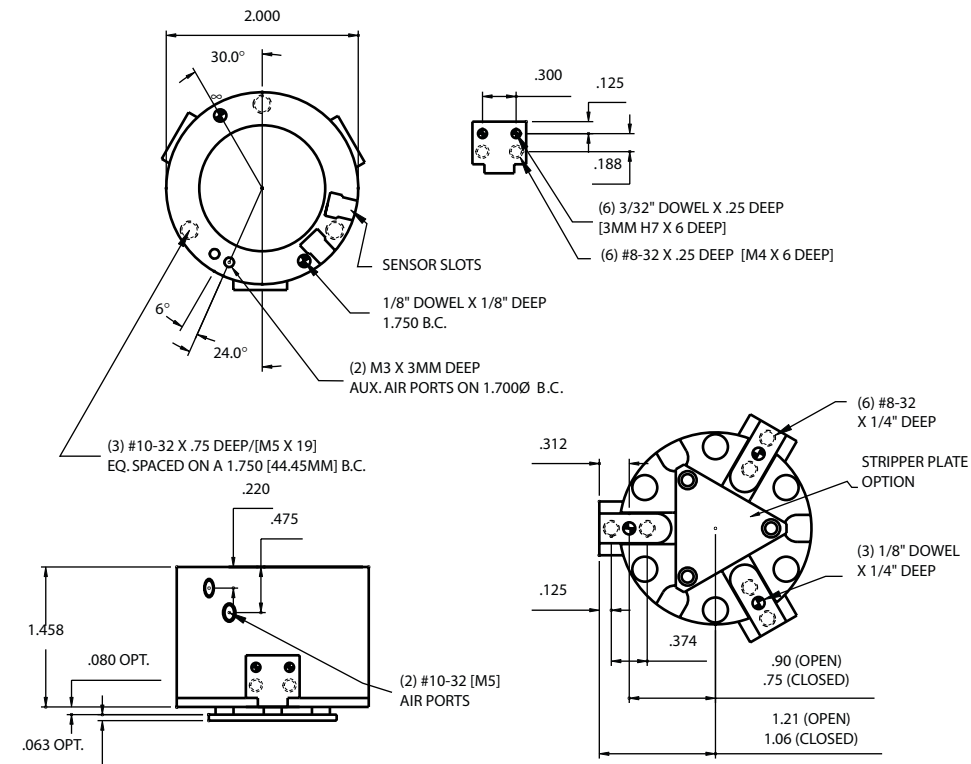
Sensing Kits

SWITCH DESCRIPTION	STANDARD CORD SET PART NO.	QUICK DISCONNECT PART NO.
Hall Effect - PNP Sourcing	HPNPS31	HPNPQ31
Hall Effect - NPN Sinking	HNPNS32	HNPNQ32
90° 5 Meter Cable	N/A	PXC90
Straight 5 Meter Cable	N/A	PXCST

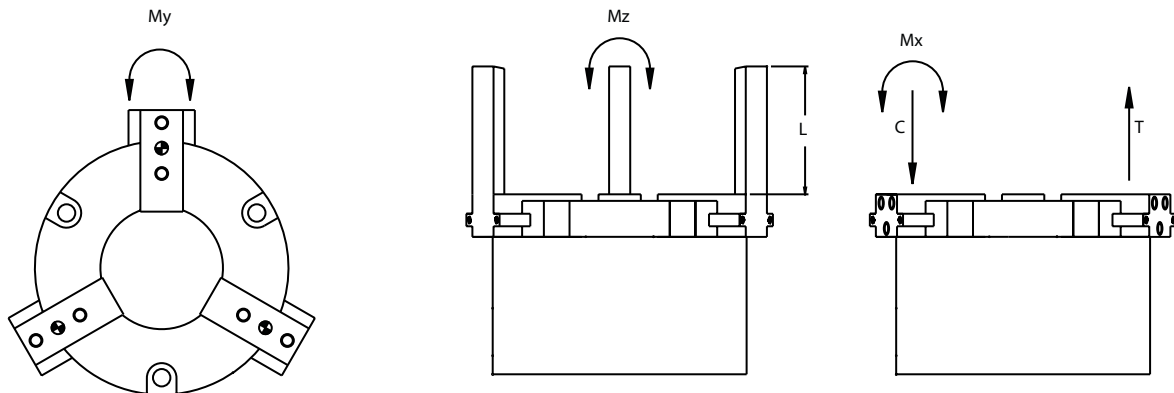


TJ30 Series 3 Jaw Gripper

Dimensions



Performance Data



Grip Force VS. Finger Length

L (FINGER LENGTH)	CLOSE FORCE @ 80 PSI	
1 inch	24 lbs	10.8 Kgf
2 inches	21 lbs	9.5 Kgf
3 inches	16 lbs	7.2 Kgf

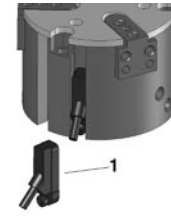
Maximum Load Ratings

	TJ200
C- Compression	300 lbs.
T - Tension	300 lbs.
Mx	250 in/lbs.
My	150 in/lbs.
Mz	250 in/lbs.



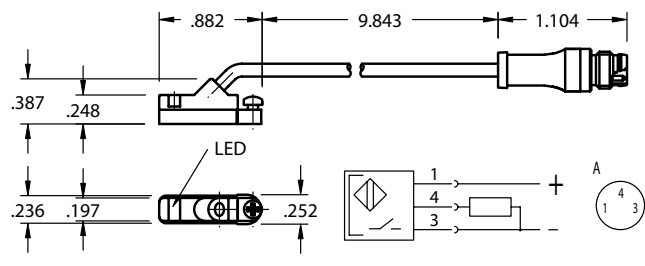
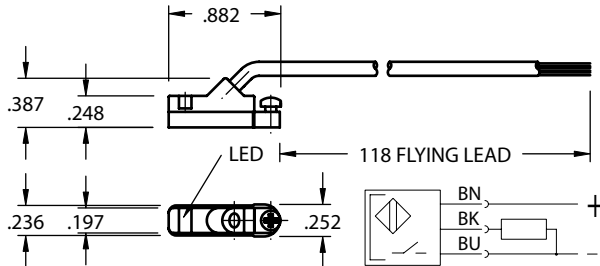
TJ30 Series Switch Information

	SWITCH OR BRACKET DESCRIPTION	STANDARD PART NO.	QUICK DISCONNECT PART NO.
1	Hall Effect - PNP (Sourcing)	HPNPS31	HPNPQ31
1	Hall Effect - NPN (Sinking)	HNPNS32	HNPNQ32



HPNPS31 – Electronic Switch (PNP NO), flying lead

HPNPQ31 – 8mm connector



Sensing Data

Ambient temperature range t_d	(°F/°C)	-13 to +158 (-25 to +70)
Temperature drift	(% of)	$\leq 0.3\%/^{\circ}\text{C}$
Frequency of operating cycles f at U_e	(kHz)	10
Turn on time t	(ms)	.05
turn off time t	(ms)	.05
Utilization categories		DC13
Function—supply voltage indication		YES

Electrical Data

Rated operational voltage U_e	(V)	24 DC
Supply voltage U_B	(V)	10...30 DC
incl. ripple	(% of U_e)	15
Voltage drop U_d at I_e Stat./dyn.	(V)	1/-
Rated insulation volatage U_i	(V)	75 AC
Rated supply frequency	(Hz)	DC
Rated operational current I_e	(mA)	200
No-load supply current I_o at U_e d./und.	(mA)	25/13
Protected against polarity reversal		YES

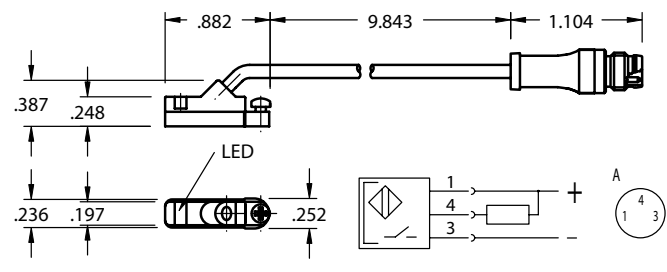
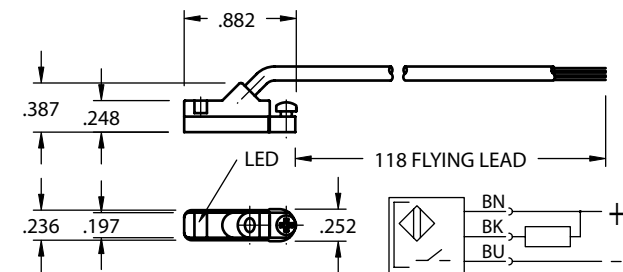
Mechanical Data

Housing material	Polyamide
Material of sensing face	Polyamide
Connection	PVC cable
Degree of Protection	IP 67
Rated shock: half-sinus, 30 g, 11 ms	
Rated vibration environment: 55 Hz, 1mm amplitude, 3 x 30	



HNPNS32 – Electronic Switch (NPN NO), flying lead

HNPNQ32 – 8mm x connector



Sensing Data

Ambient temperature range t_d	(°F/°C)	-13 to +158 (-25 to +70)
Temperature drift	(% of S_p)	$\leq 0.3\%/^{\circ}\text{C}$
Frequency of operating cycles f at U_e	(kHz)	10
Turn on time t	(ms)	.05
turn off time t	(ms)	.05
Utilization categories		DC13
Function—supply voltage indication		YES

Electrical Data

Rated operational voltage U_e	(V)	24 DC
Supply voltage U_B	(V)	10...30 DC
incl. ripple	(% of U_e)	15
Voltage drop U_d at I_e Stat./dyn.	(V)	1/-
Rated insulation volatage U_i	(V)	75 AC
Rated supply frequency	(Hz)	DC
Rated operational current I_e	(mA)	200
No-load supply current I_o at U_e d./und.	(mA)	25/13
Protected against polarity reversal		YES

Mechanical Data

Housing material	Polyamide
Material of sensing face	Polyamide
Connection	PVC cable
Degree of Protection	IP 67
Rated shock: half-sinus, 30 g, 11 ms	
Rated vibration environment: 55 Hz, 1mm amplitude, 3 x 30	





TJ200 Series 3 Jaw Gripper

Provides high grip force in a compact design. Shielded design makes the TJ ideal for machine loading and unloading. Compact design to grip force ratio are ideal for confined work areas.

- A. Jaws are T-Slot bearing supported to prevent Jaw breakage and offer superior load bearing performance.
- B. Flexible mounting, thru hole for SHCS, tapped from opposite side.
- C. Dowel holes for locating.
- D. Hardcoated aluminum body.
- E. Sensing tracks for Hall effect switches.



Specifications

GRIP FORCE CLOSE 80 PSI	GRIP FORCE OPEN 80 PSI	STROKE	WEIGHT	DISPLACEMENT	MAXIMUM OPERATING PRESSURE
200 lbs	194 lbs	0.33	2.3 oz	3.27 cu in	120 psi

How To Order

TJ 200 1 6 D X

Series
200

Seal Option
1 = Buna
2 = Viton

Sensing Position

- A = Single Position Open
- B = Single Position Close
- C = Two Position Sensing
- D = No sensing

Sensing Type

- CS Series Switch
- 1 = Hall Switch – PNP (Sourcing)
- 2 = Hall Switch – NPN (Sinking)
- 6 = No Sensing
- Quick Disconnect Cord Set
- Z = Hall Switch – PNP (Sourcing)
- Y = Hall Switch – NPN (Sinking)

When ordering additional switches:

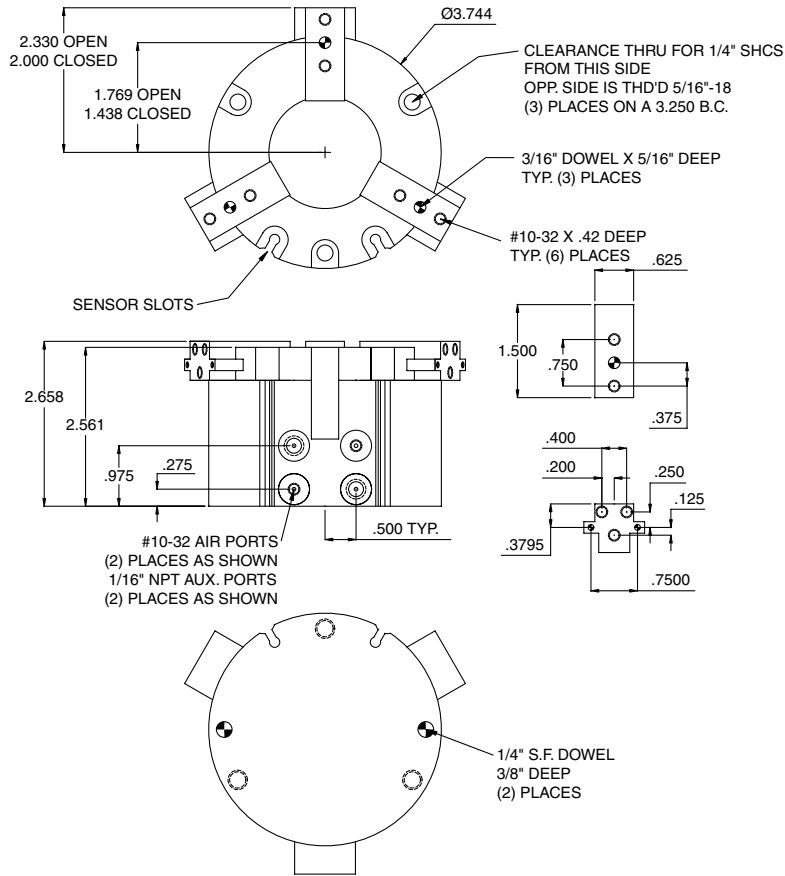
SWITCH DESCRIPTION	STANDARD CORD SET PART NO.	QUICK DISCONNECT PART NO.
Hall Effect - PNP Sourcing	CS-20TP	CS-20 TP-QD
Hall Effect - NPN Sinking	CS-20TN	CS-20 TN-QD



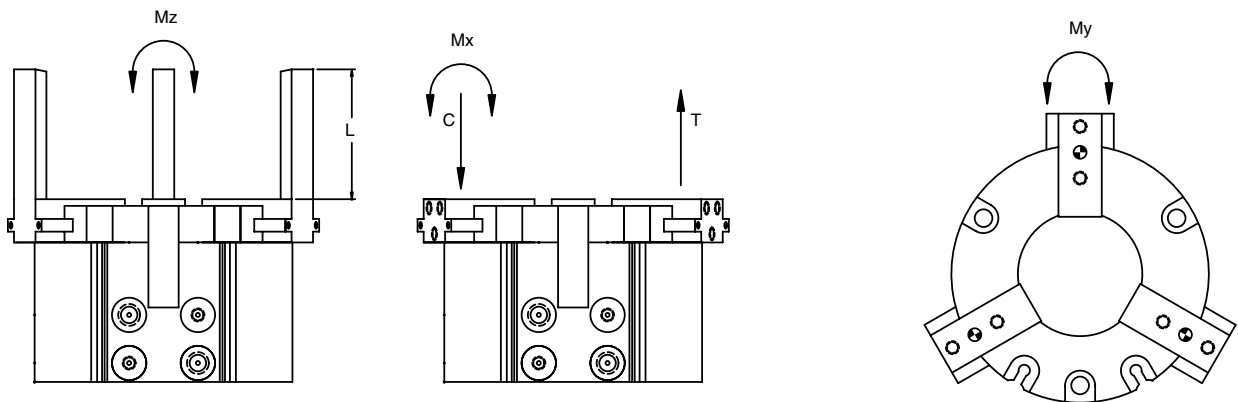
TJ200 Series 3 Jaw Gripper

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Dimensions



Performance Data



Grip Force VS. Finger Length

L (FINGER LENGTH)	CLOSE FORCE @ 80 PSI	
1 inch	175 lbs	79 Kgf
2 inches	160 lbs	72 Kgf
3 inches	140 lbs	63 Kgf

Maximum Load Ratings

	TJ200	
C - Compression	1250 lbs.	566 Kgf
T - Tension	1250 lbs.	566 Kgf
Mx	1000 in/lbs.	113 Nm
My	900 in/lbs.	101 Nm
Mz	1000 in/lbs.	113 Nm

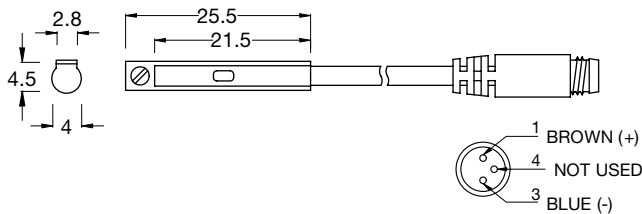


TJ200 Series Switch Information

	SWITCH OR BRACKET DESCRIPTION	STANDARD PART NO.	QUICK DISCONNECT PART NO.
1	Hall Effect PNP (Sourcing) 4mm	CS-20TP	CS-20TP-QD
1	Hall Effect NPN (Sinking) 4mm	CS-20TN	CS-20TN-QD

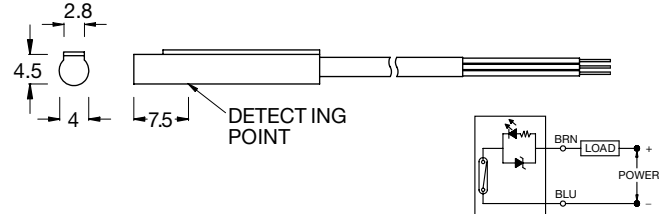


Reed Switch (AC/DC NO) 8 mm Connector - CS-20TR-QD



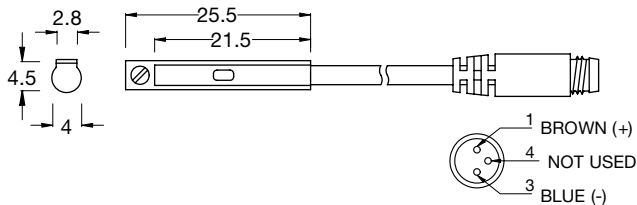
Sensor Type	Reed Switch
Switching Logic	SPST Normally Open
Output	-
Operating Voltage	5-120V DC/AC 50/60 Hz
Switching Current	50mA max. (Resistive)
Power Rating*	6 Watts
Voltage Drop	2.5V
Current Consumption	-
Leakage Current	-
LED Indicator	Red
Operating Frequency	200 Hz
Temperature Range	-
Shock / Vibration	30G/9G
Protection Circuit	None
Set Screw Max. Torque	-

Reed Switch (AC/DC NO) Flying Lead - CS-20TR



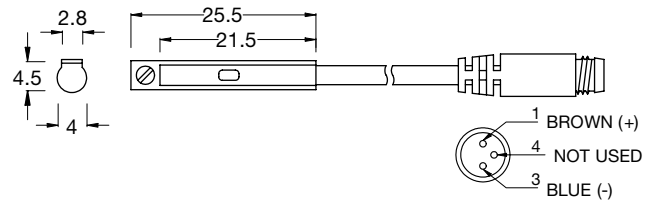
Sensor Type	Reed Switch
Switching Logic	SPST Normally Open
Output	-
Operating Voltage	5-120V DC/AC 50/60 Hz
Switching Current	50mA max. (Resistive)
Power Rating*	6 Watts
Voltage Drop	2.5 max.
Current Consumption	-
Leakage Current	-
LED Indicator	Red
Operating Frequency	200 Hz
Temperature Range	-
Shock / Vibration	30G/9G
Protection Circuit	None
Set Screw Max. Torque	-

Electro Switch (PNP NO) 8 mm Connector - CS-20TP-QD



Sensor Type	Solid State Output
Switching Logic	Normally Open
Output	PNP Current Sourcing
Operating Voltage	5-30 VDC
Switching Current	50mA max.
Power Rating*	1.5 Watts
Voltage Drop	1.5 V @ 25 mA max.
Current Consumption	15 mA @ 24 VDC max.
Leakage Current	0.01 mA max.
LED Indicator	Green
Cable	-
Operating Frequency	1000 Hz
Magnetic Requirement	40 Gauss parallel
Temperature Range	14 to 158°F (-10 to 70°C)
Shock / Vibration	50G/9G
Enclosure Classification	IEC 529 IP67 (NEMA 6)
Protection Circuit	Reverse Polarity, Surge Suppression
Set Screw Max. Torque	1.77 in-lbs (0.2 N-m)

Electro Switch (NPN NO) 8 mm Connector - CS-20TN-QD



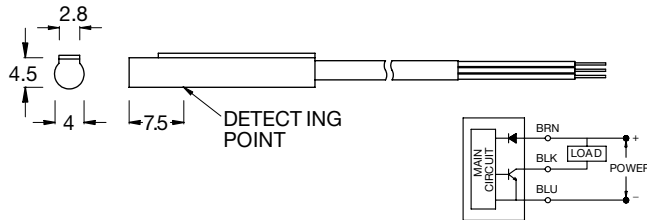
Sensor Type	Solid State Output
Switching Logic	Normally Open
Output	NPN Current Sourcing
Operating Voltage	5-30 VDC
Switching Current	50mA max.
Power Rating*	1.5 Watts
Voltage Drop	0.5 V @ 25 mA max.
Current Consumption	12 mA @ 24 VDC max.
Leakage Current	0.01 mA max.
LED Indicator	Red
Cable	-
Operating Frequency	1000 Hz
Magnetic Requirement	40 Gauss parallel
Temperature Range	14 to 158°F (-10 to 70°C)
Shock / Vibration	50G/9G
Enclosure Classification	IEC 529 IP67 (NEMA 6)
Protection Circuit	Reverse Polarity, Surge Suppression
Set Screw Max. Torque	1.77 in-lbs (0.2 N-m)



TJ200 Series 3 Jaw Gripper

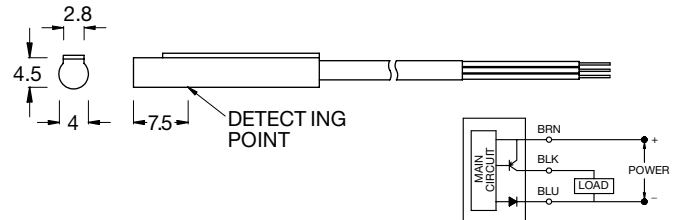
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Electro Switch (NPN NO) Flying Lead - CS-20TN



Sensor Type	Solid State Output
Switching Logic	Normally Open
Output	NPN Current Spourcing
Operating Voltage	5-30 VDC
Switching Current	50mA max.
Power Rating*	1.5 Watts
Voltage Drop	0.5 V @ 25 mA max.
Current Consumption	12 mA @ 24 VDC max.
Leakage Current	0.01 mA max.
LED Indicator	Red
Cable	-
Operating Frequency	1000 Hz
Magnetic Requirement	40 Gauss parallel
Temperature Range	14 to 158°F (-10 to 70°C)
Shock / Vibration	50G/9G
Enclosure Classification	IEC 529 IP67 (NEMA 6)
Protection Circuit	Reverse Polarity, Surge Suppression
Set Screw Max. Torque	1.77 in-lbs (0.2 N-m)

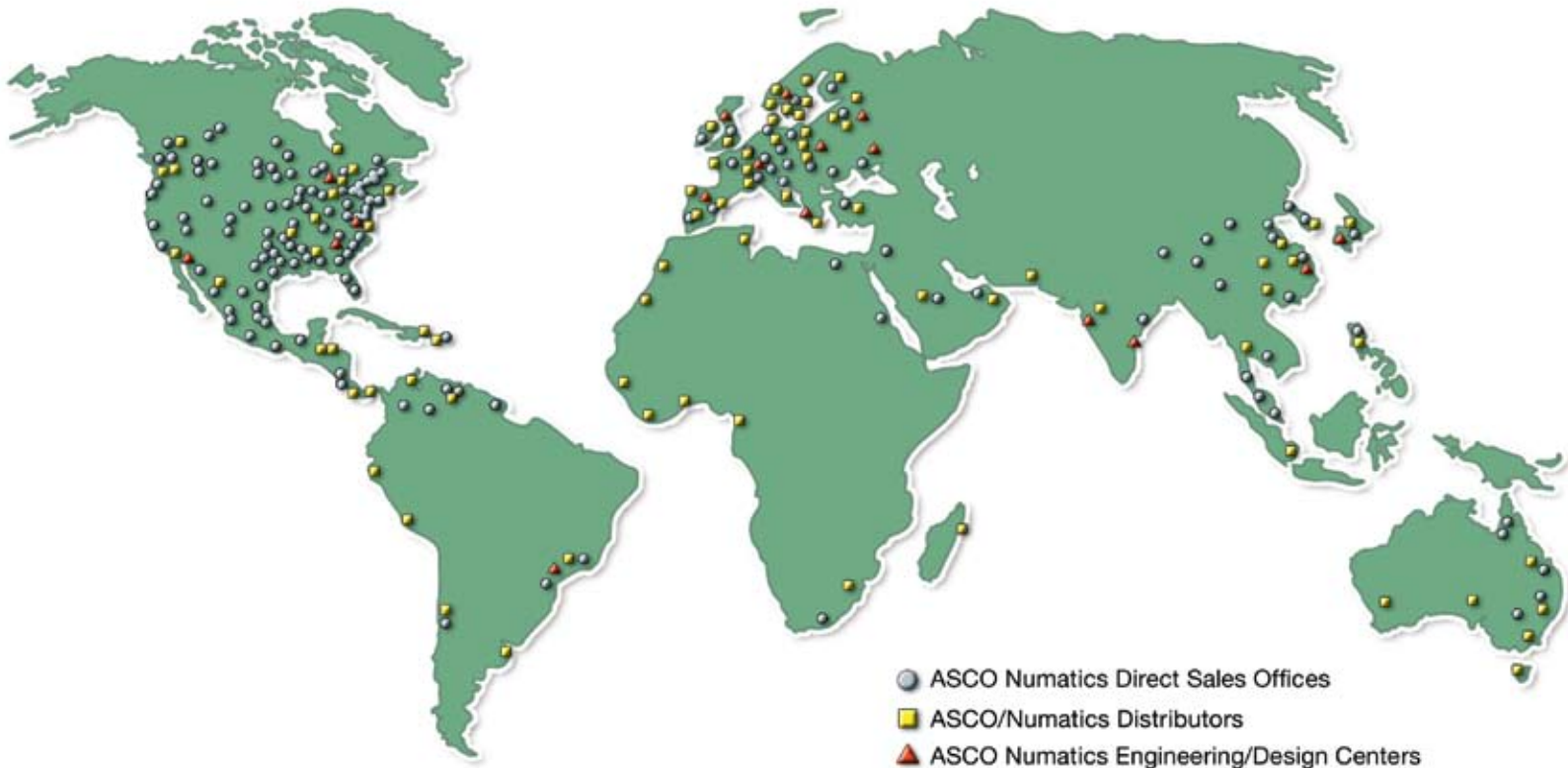
Electro Switch (PNP NO) Flying Lead - CS-20TP



Sensor Type	Solid State Output
Switching Logic	Normally Open
Output	PNP Current Spourcing
Operating Voltage	5-30 VDC
Switching Current	50mA max.
Power Rating*	1.5 Watts
Voltage Drop	1.5 V @ 25 mA max.
Current Consumption	12 mA @ 24 VDC max.
Leakage Current	0.01 mA max.
LED Indicator	Green
Cable	Abrasion resistant polyurethane
	(PUR) jacket, PVC insulation
Operating Frequency	1000 Hz
Magnetic Requirement	40 Gauss parallel
Temperature Range	14 to 158°F (-10 to 70°C)
Shock / Vibration	50G/9G
Enclosure Classification	IEC 529 IP67 (NEMA 6)
Protection Circuit	Reverse Polarity, Surge Suppression
Set Screw Max. Torque	1.77 in-lbs (0.2 N-m)

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