

Controls, Sensing and Linear Motors

English selection guide for 26 current models

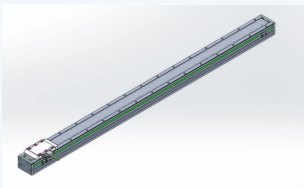
HTROBOT

Linear motion components and multi-axis automation, with practical support from Tianjin.

Based in Tianjin, HTROBOT works with customers on industrial linear motion and multi-axis automation. Our range brings together linear modules, guides, ball screws, actuators and XYZ stages.

We connect component supply with application discussions for positioning, transfer and multi-axis equipment.

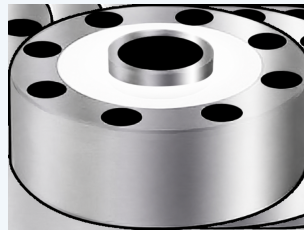
Our product applications include positioning, transfer and handling in industrial equipment. Cooperation can start with an individual axis, a combination of components or a multi-axis platform.



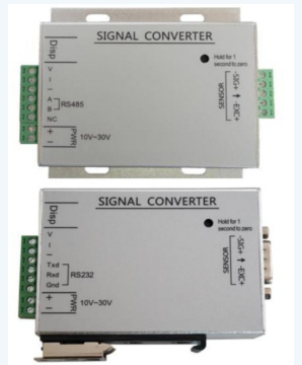
TKP-34100



LM-FI08



ECA-LCF2



ECA-FD02D

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Each model keeps its published parameter table in this guide and in its own product PDF. Drawing PDFs are included only where a real housing, installation, or motor view is available.

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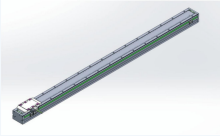
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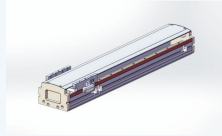
TKP Linear Motors

Direct-drive movers for configured motion systems

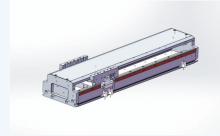
These direct-drive movers are used in single-axis, XY, and gantry arrangements for laser cutting, engraving and marking, precision machine tools, and semiconductor equipment. The eight motor models list model-level force, current, electrical, and mass values. Configured module or platform ratings must be confirmed separately.



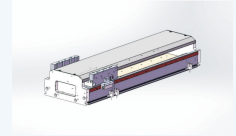
TKP-34100



TKP-38100



TKP-48100



TKP-68100

MODEL	KEY VALUES	PAGE
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TKP-34180	Continuous force (25°C): 70 N; Coil-unit weight: 1.8 kg	08
TKP-38100	Continuous force (25°C): 80 N; Coil-unit weight: 0.8 kg	09
TKP-38182	Continuous force (25°C): 80 N; Coil-unit weight: 0.8 kg	10
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TKP-48182	Continuous force (25°C): 160 N; Coil-unit weight: 1.1 kg	12
TKP-68100	Continuous force (25°C): 120 N; Coil-unit weight: 0.9 kg	13
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Control and Accessory Products

Switches, display modules, and signal-control interfaces

These are distinct switch and control-interface products, not one interchangeable accessory series. Match polarity or contact logic, supply range, load capacity, protection, and wiring before selection.



LM-FI08



LYD-66D



AG-39



AL-39

MODEL	KEY VALUES	PAGE
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AL-39	Using voltage range: AL-39DF: 10-28V / DC · AL-39N/AL-39NB/AL-39P/AL-39PB: 5-30V / DC; Sensitiveness: AL-39DF: 40-800 Gaussian · AL-39N/AL-39NB: 40-800 Gaussian · AL-39P/AL-39PB: 25-800 Gaussian	20
CTB8	Display number of digits: 6; Switching outputs: 2	22
DFGE	Using voltage range: 10-30V / DC; Maximum switching current: 1-50mA	23
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ECA-CTB8	Working voltage: 12-30V/DC	25
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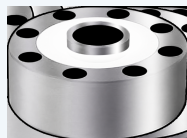
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LCF Pressure Sensors

Load and pressure sensor signal inputs

The LCF sensors sit in the measurement signal chain. Compare rated load, overload limits, sensitivity, impedance, sealing, and the printed installation dimensions with the mounting and receiver interface.



ECA-LCF2

MODEL	KEY VALUES	PAGE
ECA-LCF2	Rated load: 0.5, 1, 2, 3, 5, 10, 15, 20, 25, 30, 50, 60, 100(T)	28
ECA-LCF2-LZ	Rated load: 0.1, 0.5, 1, 2, 3, 5, 10, 15, 20, 25, 30, 50, 60, 100(T)	31
ECA-LCF4D	Rated load: 200KG, 500KG, 1000KG; 3T, 5T, 7.5T, 10T	34

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FD Force Transmitters

Sensor conditioning, display, communication, and outputs

FD transmitters condition sensor signals and provide display, analog, switching, and serial communication options. Select the variant together with the sensor input, power supply, output format, protocol, and calibration requirements.



ECA-FD02D

MODEL	KEY VALUES	PAGE
ECA-FD02D	Working voltage: 12-30V/DC	36
ECA-FD02V	Working voltage: 12-30V/DC	37
ECA-FD02V/A	Working voltage: 12-30V/DC	38
ECA-FD106	Working voltage: 10-30V/DC	39
ECA-FD106-MC	Working voltage: 10-30V/DC; Display accuracy: 1/10000 precision 5-bit or 6-bit red digital display	40

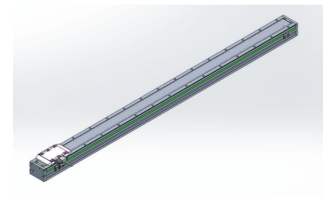
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TKP-34100 - 90-series linear motor

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Back-EMF constant	38 V·s/m
Coil-unit weight	1.4 kg
Continuous current	3.0 Arms
Continuous force (25°C)	40 N
Electrical time constant	2.7 ms
Force constant	14 N/Arms
Magnet pitch	32 mm
Maximum continuous power loss	12.7 W
Motor constant	12.7 N/√W
Peak current	10 Arms
Peak force (25°C)	125 N
Phase inductance	8.2 mH
Phase resistance	3 ohm

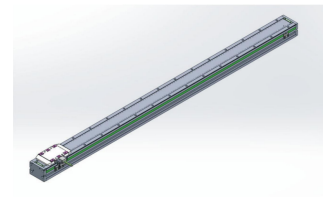
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TKP-34180 - 90-series linear motor

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Back-EMF constant	14 V·s/m
Coil-unit weight	1.8 kg
Continuous current	3.0 Arms
Continuous force (25°C)	70 N
Electrical time constant	2.5 ms
Force constant	24 N/Arms
Magnet pitch	32 mm
Maximum continuous power loss	7.2 W
Motor constant	26.1 N/√W
Peak current	10 Arms
Peak force (25°C)	210 N
Phase inductance	4.2 mH
Phase resistance	1.7 ohm

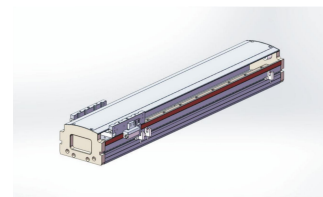
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TKP-38100 - 120-series linear motor

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Back-EMF constant	22.3 V·s/m
Coil-unit weight	0.8 kg
Continuous current	2.4 Arms
Continuous force (25°C)	80 N
Electrical time constant	2.4 ms
Force constant	33.4 N/Arms
Magnet pitch	24 mm
Maximum continuous power loss	13.6 W
Motor constant	21.7 N/√W
Peak current	10 Arms
Peak force (25°C)	240 N
Phase inductance	9.5 mH
Phase resistance	4 ohm

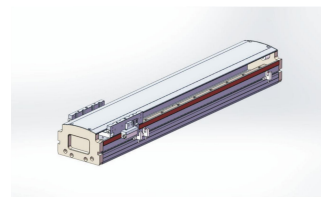
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TKP-38182 - 120-series linear motor

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Back-EMF constant	22.3 V·s/m
Coil-unit weight	0.8 kg
Continuous current	2.4 Arms
Continuous force (25°C)	80 N
Electrical time constant	2.4 ms
Force constant	33.4 N/Arms
Magnet pitch	24 mm
Maximum continuous power loss	13.6 W
Motor constant	21.7 N/√W
Peak current	10 Arms
Peak force (25°C)	240 N
Phase inductance	9.5 mH
Phase resistance	4 ohm

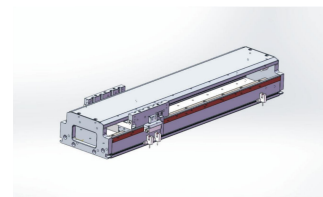
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TKP-48100 - 140-series linear motor

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Back-EMF constant	8.3 V·s/m
Coil-unit weight	0.6 kg
Continuous current	2.4 Arms
Continuous force (25°C)	80 N
Electrical time constant	2.8 ms
Force constant	34.7 N/Arms
Magnet pitch	24 mm
Maximum continuous power loss	40.7 W
Motor constant	12.5 N/√W
Peak current	10 Arms
Peak force (25°C)	240 N
Phase inductance	34 mH
Phase resistance	12 ohm

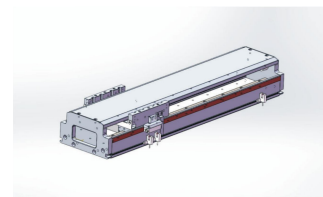
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TKP-48182 - 140-series linear motor

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Back-EMF constant	26 V·s/m
Coil-unit weight	1.1 kg
Continuous current	2.4 Arms
Continuous force (25°C)	160 N
Electrical time constant	2.5 ms
Force constant	66.7 N/Arms
Magnet pitch	24 mm
Maximum continuous power loss	25.5 W
Motor constant	31.7 N/√W
Peak current	10 Arms
Peak force (25°C)	480 N
Phase inductance	19 mH
Phase resistance	7.5 ohm

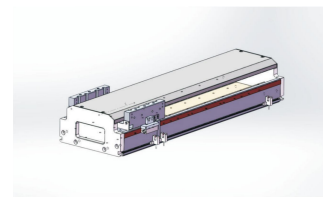
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TKP-68100 - 170-series linear motor

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Back-EMF constant	12.7 V·s/m
Coil-unit weight	0.9 kg
Continuous current	2.4 Arms
Continuous force (25°C)	120 N
Electrical time constant	3.2 ms
Force constant	50 N/Arms
Magnet pitch	24 mm
Maximum continuous power loss	40.7 W
Motor constant	18.8 N/√W
Peak current	10 Arms
Peak force (25°C)	360 N
Phase inductance	38 mH
Phase resistance	12 ohm

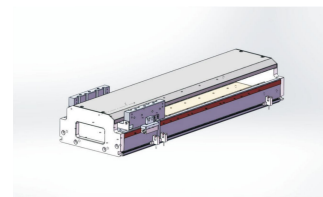
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TKP-68182 - 170-series linear motor

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Back-EMF constant	29.5 V·s/m
Coil-unit weight	1.1 kg
Continuous current	2.4 Arms
Continuous force (25°C)	245 N
Electrical time constant	2.5 ms
Force constant	106.6 N/Arms
Magnet pitch	24 mm
Maximum continuous power loss	29.9 W
Motor constant	44.8 N/√W
Peak current	10 Arms
Peak force (25°C)	735 N
Phase inductance	22 mH
Phase resistance	8.8 ohm

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LM-FI08 - Inductive proximity switch family

Confirm the exact variant and application conditions with HTROBOT. Applies to LM-FI08N1.5-02 / LM-FI08NB1.5-02 and LM-FI08P1.5-02 / LM-FI08PB1.5-02 unless a row names a narrower variant.



PARAMETER	VALUE
Consumption current	≤10mA
Leakage current	≤5μA
Power indicator light	Green LED
Protection circuit	Wrong wire polarity protection, surge voltage protection, output overload/short circuit protection
Protection level	IP67
Reliable detection distance	0-1.05mm
Repeatability	<5%
Residual pressure drop	≤1mA
Signal output indicator light	Red LED
Standard detection distance	0-1.5mm
Standard detection object	8*8*1(iron)
Switching frequency	800HZ
Switch output current	200mA
temperature range	-20°~+70°C
Type	Three wire PNP output type LM-FI08P1.5-02 / LM-FI08PB1.5-02
Type	Three wire NPN output type LM-FI08N1.5-02 / LM-FI08NB1.5-02
Using voltage range	8-30V / DC

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LYD-66D - Magnetic switch family

Confirm the exact variant and application conditions with HTROBOT. Applies to LYD-66N /LYD -66N-NC and LYD-66P /LYD -66P-NC and LYD-66D /LYD -66D-NC unless a row names a narrower variant.



PARAMETER	VALUE
Consumption current	10mA@24V DC Max LYD-66N /LYD -66N-NC / LYD-66P /LYD -66P-NC
Consumption current	- LYD-66D /LYD -66D-NC
Impact resistance (Note 3)	50G
Indicator light color	Red LED
Induced magnetic field strength (Note 2)	40 Gauss start or 40 Gauss stop (NC)
Leakage current	0.1mA Max. LYD-66N /LYD -66N-NC / LYD-66P /LYD -66P-NC
Leakage current	0.1mA(40uA)Max. LYD-66D /LYD -66D-NC
Maximum switching current	200MA Max. LYD-66N /LYD -66N-NC / LYD-66P /LYD -66P-NC
Maximum switching current	100MA Max. LYD-66D /LYD -66D-NC
Maximum switching frequency	1000Hz Max
Node capacity (Note 1)	6W Max. LYD-66N /LYD -66N-NC / LYD-66P /LYD -66P-NC
Node capacity (Note 1)	3W Max. LYD-66D /LYD -66D-NC
Operating temperature range	-10°~70°C

LYD-66D - Magnetic switch family

Confirm the exact variant and application conditions with HTROBOT. Applies to LYD-66N /LYD -66N-NC and LYD-66P /LYD -66P-NC and LYD-66D /LYD -66D-NC unless a row names a narrower variant.



PARAMETER	VALUE
Output contact type	Non contact NPN type LYD-66N /LYD -66N-NC
Output contact type	Non contact PNP type LYD-66P /LYD -66P-NC
Output contact type	Contactless type LYD-66D /LYD -66D-NC
Protection circuit (Note 5)	3,4
Protection level	IEC 60529 Ip67
Residual pressure drop	0.5V@200mA Max. LYD-66N /LYD -66N-NC / LYD-66P /LYD -66P-NC
Residual pressure drop	3.5V Max. LYD-66D /LYD -66D-NC
Switch logic	Electronic contactless, normally open or normally closed (NC)
Using voltage range	5-30V DC
Vibration resistance (Note 4)	9G
Wire	Ø2.6,3C,PVC LYD-66N /LYD -66N-NC / LYD-66P /LYD -66P-NC
Wire	Ø2.6,2C,PVC LYD-66D /LYD -66D-NC
Wiring type	Three line type LYD-66N /LYD -66N-NC / LYD-66P /LYD -66P-NC
Wiring type	Two line type LYD-66D /LYD -66D-NC

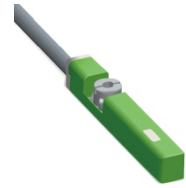
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AG-39 - AG magnetic switch

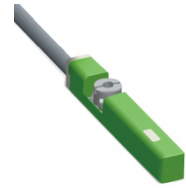
Confirm the exact variant and application conditions with HTROBOT. Applies to AG-39N/AG-39NB and AG-39P/AG-39PB unless a row names a narrower variant.



PARAMETER	VALUE
Consumption current	3mA Max.@24V
Indicator light	Red LED AG-39DF / AG-39N/AG-39NB
Indicator light	Green LED AG-39P/AG-39PB
Leakage current	90μA Max.@28V AG-39DF
Leakage current	0.01 mA Max AG-39N/AG-39NB / AG-39P/AG-39PB
Logic	Electronic; Normally open type AG-39DF
Logic	Electronic; Normally open/normally closed AG-39N/AG-39NB / AG-39P/AG-39PB
Maximum contact capacity	1.5W AG-39DF
Maximum contact capacity	3W AG-39N/AG-39NB / AG-39P/AG-39PB
Protection circuit	Surge absorption protection AG-39DF
Protection circuit	Power polarity reverse protection, surge absorption protection AG-39N/AG-39NB / AG-39P/AG-39PB

AG-39 - AG magnetic switch

Confirm the exact variant and application conditions with HTROBOT. Applies to AG-39N/AG-39NB and AG-39P/AG-39PB unless a row names a narrower variant.



PARAMETER	VALUE
Residual pressure drop	2.65V Max.@50mA DC AG-39DF
Residual pressure drop	0.5V Max.@200mA DC AG-39N/AG-39NB / AG-39P/AG-39PB
Sensitiveness	40-800 Gaussian AG-39DF / AG-39N/AG-39NB
Sensitiveness	25-800 Gaussian AG-39P/AG-39PB
Switching frequency	900Hz AG-39DF
temperature range	-10°~70°C AG-39DF
Type	Two wire contactless type AG-39DF
Type	Three wire contactless NPN type AG-39N/AG-39NB / AG-39P/AG-39PB
Using switch current	1-50mA AG-39DF
Using switch current	0-200mA AG-39N/AG-39NB / AG-39P/AG-39PB
Using voltage range	10-30V / DC AG-39DF
Using voltage range	5-30V / DC AG-39N/AG-39NB / AG-39P/AG-39PB

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AL-39 - AL magnetic switch

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Consumption current	40µA Max.@24V AL-39DF
Consumption current	7.5mA Max.@24V AL-39N/AL-39NB / AL-39P/AL-39PB
Indicator light	Red LED AL-39DF / AL-39N/AL-39NB
Indicator light	Green LED AL-39P/AL-39PB
Leakage current	90µA Max.@28V AL-39DF
Leakage current	0.01 mA Max AL-39N/AL-39NB / AL-39P/AL-39PB
Logic	Electronic; Normally open type AL-39DF
Logic	Electronic; Normally open/normally closed AL-39N/AL-39NB / AL-39P/AL-39PB
Maximum contact capacity	1.4W AL-39DF
Maximum contact capacity	6W AL-39N/AL-39NB / AL-39P/AL-39PB
Protection circuit	Surge absorption protection AL-39DF
Protection circuit	Power polarity reverse protection, surge absorption protection AL-39N/AL-39NB / AL-39P/AL-39PB

AL-39 - AL magnetic switch

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Residual pressure drop	2.65V Max.@50mA DC AL-39DF
Residual pressure drop	0.5V Max.@200mA DC AL-39N/AL-39NB / AL-39P/AL-39PB
Sensitiveness	40-800 Gaussian AL-39DF / AL-39N/AL-39NB
Sensitiveness	25-800 Gaussian AL-39P/AL-39PB
Switching frequency	1000Hz AL-39DF
temperature range	-10°~70°C AL-39DF / AL-39N/AL-39NB / AL-39P/AL-39PB
Type	Two wire contactless type AL-39DF
Type	Three wire contactless PNP type AL-39N/AL-39NB / AL-39P/AL-39PB
Using switch current	1-50mA AL-39DF
Using switch current	0-200mA AL-39N/AL-39NB / AL-39P/AL-39PB
Using voltage range	10-28V / DC AL-39DF
Using voltage range	5-30V / DC AL-39N/AL-39NB / AL-39P/AL-39PB

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CTB8 - CTB8 display/control module

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
A1	Increase analog signal output
C1	Increase RS485 output
C2	Increase RS232 output (choose 1 out of 2 from Rs485)
D6	6-digit digital display
T	Transistor output
TS	Added TES calibration free function (sensors must have this function)
unknown	Switching quantity 2 outputs
display_digits	{'kind': 'exact', 'unit': 'count', 'value': 6} option D6 selected
switching_output_count	{'kind': 'exact', 'unit': 'count', 'value': 2} standard configuration

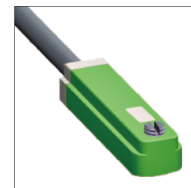
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DFGE - DFGE switch family

Confirm the exact variant and application conditions with HTROBOT. Applies to DFGE / DMSE unless a row names a narrower variant.



PARAMETER	VALUE
Indicator light color	Red LED
Leakage current	90µA Max.@28V
Maximum switching current	1-50mA
Node capacity	1.5W
Protection circuit	Surge absorption protection
Residual pressure drop	2.65V Max.@50mA DC
Sensitiveness	25-800 Gaussian
Switching frequency	900HZ
temperature range	-10°~70°C
Using voltage range	10-30V / DC

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DMSE - DMSE switch family

Confirm the exact variant and application conditions with HTROBOT. Applies to DFGE / DMSE unless a row names a narrower variant.



PARAMETER	VALUE
Indicator light color	Red LED
Leakage current	90µA Max.@28V
Maximum switching current	1-50mA
Node capacity	1.5W
Protection circuit	Surge absorption protection
Residual pressure drop	2.65V Max.@50mA DC
Sensitiveness	25-800 Gaussian
Switching frequency	900HZ
temperature range	-10°~70°C
Using voltage range	10-30V / DC

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ECA-CTB8 - ECA-CTB8 weighing transmitter

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
1 weighing signal input	0-39mv
A/D performance	24 bit, Delta Sigma method
Accuracy grade	0.012% F.S.
Analog signal output	4-20mA; 0-5V; 0-10V; Resolution of 1/3000 (optional)
Anti voltage	At 2000V AC50/60Hz for 1 minute
Display number of digits	5-and-a-half-bit
Excitation voltage	5V/DC
Gain drift	±5PPM/°C
Maximum sampling frequency	1000HZ
Nondimensional	0.002% F.S.
Protection level	Ip65
Relative temperature	Temperature: 35 °C~85% relative humidity Storage: 35-85% relative humidity
Rs232 interface	Rs232 interface; Supports Modbus RTU protocol and free protocol
Rs485 interface	Rs485 interface; Up to 32 nodes in parallel; Supports Modbus RTU protocol and free protocol
Sampling and output rate	10. 40, 640, 1280 times/sec
Storage temperature	-25°C~+65°C
Switching input	3-point transistor output, 24V/1A load capacity, 1 input (optional)
Switching output	2-point relay output, 250VAC/3A resistive load (optional)
Working temperature	-30°C~+60°C
Working voltage	12-30V/DC
Zero drift	<0.02μV/°C
Communication interface	RS232/485

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ECA-CTB9 - ECA-CTB9 weighing transmitter

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
A/D performance	24 bit, Delta Sigma method
Additional features	Can add TEDS function
Analog signal output	4-20mA; 0-5V; 0-10V; Resolution of 1/3000 (optional)
Characteristics	Zero point tracking, creep tracking, and adjustable analog quantities
Communication interface	Rs232 and Rs485 are supported simultaneously; Modbus RTU protocol and free protocol
Display accuracy	1/100000.
Excitation voltage output	5V/DC, 100mA (up to 6 sensors with 350 Ω)
Gain drift	± 5 PPM/ $^{\circ}$ C
Input sensitivity	0.4-6mv/v
Maximum sampling frequency	Up to 4800Hz
Nondimensional	0.01% F.S.
Optional model	- Standard configuration - A1 - C1 - C2 - TS
Relative temperature	Temperature: 35 $^{\circ}$ C~85% relative humidity Storage: 35-85% relative humidity
Remarks Description	- Two relay outputs. 4-point input, 5-point transistor output - Increase analog signal output - Increase RS485 output - Increase RS232 output - Added TES calibration free function (sensors must have this function)
Sampling and output rate	10. 40, 80, 120, 400, 600, 12001600, 4800 times/sec
Storage temperature	-25 $^{\circ}$ C~+65 $^{\circ}$ C
Voltage withstand	At 2000V AC50/60Hz for 1 minute
Working temperature	-30 $^{\circ}$ C~+60 $^{\circ}$ C
Working voltage	12-30V/DC
Zero drift	<0.02 μ V/ $^{\circ}$ C

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ECA-CTB9S - ECA-CTB9S weighing transmitter

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
A/D conversion rate	6.25/12.5/25/50/100/200/400/800 1600/3200/s
A/D resolution	Value to be confirmed
Overall dimensions	96*71*48cm
Characteristics	6-digit dual row red digital display
Communication protocol	Modbus RTU/ASCII/FREE (Free Agreement)
Display accuracy	1/30000.
Driving ability	Six 359 Ω sensors
Excitation voltage output	5V/DC, 100mA (up to 6 sensors with 350 Ω)
Input sensitivity	0.1-6mv/v
Optional model	- Standard configuration - A1 - TS
Output port	Rs232 and Rs485 are supported simultaneously; Can add analog output with a resolution of 1/60000
Remarks Description	- 7 transistor outputs, 4 input Rs485 - Increase analog signal output - Add TES calibration free function
Switching quantity	7-point transistor output (maximum 1A, 4-point input)
Transmission speed	1200/2400/4800/9600/19200/38400 57600/115200
Working temperature	-30°C~+60°C
Working voltage	12-30V/DC
Zero drift	Value to be confirmed

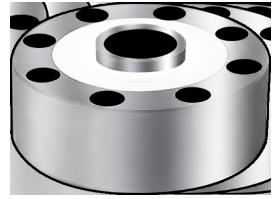
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ECA-LCF2 - Pressure-sensor series

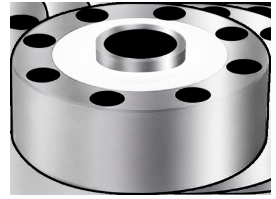
Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Cable	6m/10m
Comprehensive accuracy	$\pm 0.03\% \text{F.S.}; \pm 0.05\% \text{F.S.}$
ØA	105 mm Rated load 1-5
ØB	32 mm Rated load 1-5
ØD	89 mm Rated load 1-5
E	7.5 mm Rated load 1-5
F	10.5 mm Rated load 1-5
H	37 mm Rated load 1-5
H1	34 mm Rated load 1-5
H2	7.2 mm Rated load 1-5
M	M16*1.5 mm Rated load 1-5
ØA	120.6 mm Rated load 10-25
ØB	39 mm Rated load 10-25
ØD	101.8 mm Rated load 10-25
E	8.5 mm Rated load 10-25
F	14 mm Rated load 10-25
H	48 mm Rated load 10-25
H1	41 mm Rated load 10-25
H2	10.5 mm Rated load 10-25
M	M32*1.5 mm Rated load 10-25
ØA	141 mm Rated load 30-50

ECA-LCF2 - Pressure-sensor series

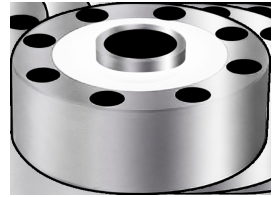
Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
ØB	50.4 mm Rated load 30-50
ØD	116.8 mm Rated load 30-50
E	11 mm Rated load 30-50
F	18 mm Rated load 30-50
H	57.2 mm Rated load 30-50
H1	50.8 mm Rated load 30-50
H2	11 mm Rated load 30-50
M	M40*1.5 mm Rated load 30-50 / Rated load 60
ØA	153 mm Rated load 60
ØB	70 mm Rated load 60
ØD	130 mm Rated load 60
E	10.5 mm Rated load 60
F	17 mm Rated load 60
H	58 mm Rated load 60
H1	51 mm Rated load 60
H2	16 mm Rated load 60
ØA	200 mm Rated load 60-100
ØB	76 mm Rated load 60-100
ØD	162 mm Rated load 60-100
E	13 mm Rated load 60-100

ECA-LCF2 - Pressure-sensor series

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
F	20 mm Rated load 60-100
H	83 mm Rated load 60-100
H1	70 mm Rated load 60-100
H2	18 mm Rated load 60-100
M	M60*2 mm Rated load 60-100
Input impedance	385±10Ω/750±20
Insulation impedance	≥5000MΩ(DC50V)
Material	Stainless steel/alloy steel
Output impedance	7350±5Ω/700±50
Rated load	0.5, 1, 2, 3, 5, 10, 15, 20, 25, 30, 50, 60, 100(T)
Safety overload	150%F.S.
Sealing level	IP67
Sensitiveness	2.0mV/V±1%
Temperature range compensation	-10-40°C
Ultimate Overload	300%F.S
Zero point output	±1%F.S
temperature range	-30-70°C
Voltage	5-15V(DC)

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ECA-LCF2-LZ - Pressure-sensor series

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Cable	Four core shielded cable
Comprehensive accuracy	±0.05%F.S,C2
ØA	72 mm Rated load 0.1-1
ØB	18 mm Rated load 0.1-1
ØD	58.5 mm Rated load 0.1-1
E	5.5 mm Rated load 0.1-1
F	10 mm Rated load 0.1-1
H	24 mm Rated load 0.1-1
H1	24 mm Rated load 0.1-1
M	M12 mm Rated load 0.1-1
ØA	105 mm Rated load 2-5
ØB	29 mm Rated load 2-5
ØD	88.9 mm Rated load 2-5
E	6.5 mm Rated load 2-5
F	11 mm Rated load 2-5
H	37 mm Rated load 2-5
H1	34 mm Rated load 2-5
M	M16*1.5 mm Rated load 2-5
ØA	125 mm Rated load 7-25
ØB	39 mm Rated load 7-25
ØD	105 mm Rated load 7-25

ECA-LCF2-LZ - Pressure-sensor series

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
E	8..7 mm Rated load 7-25
F	14 mm Rated load 7-25
H	52 mm Rated load 7-25
H1	48 mm Rated load 7-25
M	M30*2 mm Rated load 7-25
ØA	145 mm Rated load 30-50
ØB	50 mm Rated load 30-50
ØD	116.8 mm Rated load 30-50
E	11 mm Rated load 30-50
F	16.5 mm Rated load 30-50
H	58 mm Rated load 30-50
H1	54 mm Rated load 30-50
M	M40*1.5 mm Rated load 30-50
ØA	205 mm Rated load 60-100
ØB	85 mm Rated load 60-100
ØD	162 mm Rated load 60-100
E	13 mm Rated load 60-100
F	20 mm Rated load 60-100

ECA-LCF2-LZ - Pressure-sensor series

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
H	83 mm Rated load 60-100
H1	78 mm Rated load 60-100
M	M60*2 mm Rated load 60-100
Input impedance	700 $\pm$ 10 Ω
Insulation impedance	$\geq$ 5000M Ω (DC100V)
Material	Alloy steel
Output impedance	700 $\pm$ 5 Ω
Rated load	0.1, 0.5, 1, 2, 3, 5, 10, 15, 20, 25, 30, 50, 60, 100(T)
Safety overload	150%F.S
Sealing level	IP66
Sensitiveness	2.0 $\pm$ 0.008 mV/V
Temperature range compensation	-10-40°C
Ultimate Overload	200%F.S
Zero point output	$\pm$ 1%F.S
temperature range	-20-60°C
Voltage	9-12V(DC)

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ECA-LCF4D - Pressure-sensor series

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Cable	Four core shielded cable
Comprehensive accuracy	±0.1%F.S
ØA	58 mm Rated load 0.2
ØB	16 mm Rated load 0.2
ØD	45 mm Rated load 0.2
E	10.57 mm Rated load 0.2 / Rated load 0.5-1 / Rated load 2-10
F	6.5 mm Rated load 0.2 / Rated load 0.5-1 / Rated load 2-10
H	24 mm Rated load 0.2 / Rated load 0.5-1
H1	22.5 mm Rated load 0.2 / Rated load 0.5-1
M	M12*1.5 mm Rated load 0.2
ØA	78 mm Rated load 0.5-1
ØB	28 mm Rated load 0.5-1
ØD	62 mm Rated load 0.5-1
M	M20*1.5 mm Rated load 0.5-1
ØA	85 mm Rated load 2-10
ØB	38 mm Rated load 2-10
ØD	70 mm Rated load 2-10

ECA-LCF4D - Pressure-sensor series

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
H	30 mm Rated load 2-10
H1	24 mm Rated load 2-10
M	M30*1.5 mm Rated load 2-10
Input impedance	380±30Ω
Insulation impedance	≥5000MΩ(DC100V)
Material	Stainless steel
Output impedance	350±10Ω
Rated load	200KG, 500KG, 1000KG; 3T, 5T, 7.5T, 10T
Safety overload	150%F.S
Sealing level	IP66
Sensitiveness	2.0 ±0.05 mV/V
Temperature range compensation	-10-40°C
Ultimate Overload	200%F.S
Zero point output	±1%F.S
temperature range	-20-80°C
Voltage	10-15V(DC)

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ECA-FD02D - Force-transmitter series

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Optional model	- Standard configuration - A1 - C1 - C2 - TS - K
Remarks Description	- Switching quantity 2 outputs - Increase analog signal output - Increase RS485 output - Increase RS232 output (choose 1 out of 2 from Rs485) - Added TES calibration free function (sensors must have this function) - DIN-Rail Mounting
Working voltage	12-30V/DC
Input sensitivity	0.4-6mv/v
Excitation voltage	5VDC, 100mA (maximum of 6 sensors, 35 Ω)
Maximum sampling rate	Up to 1280Hz
Zero drift	<0.02uV/°C
Gain drift	±5PPM/°C
Nondimensional	0.05%F.S
Communication function	Choose between RS232 and Rs485; Modbus RTU protocol and free protocol
Display accuracy	1/10000
Analog signal output	4-20mA; 0-5V; 0-10V; Resolution of 1/3000 (optional)
A/D performance	24 bit, Delta Sigma method
Sampling and output rate	10. 40, 640, 1280 times/sec
Analog output	0~± 10V, 0-20mA, 4-20mA; Resolution of 1/3000
Storage temperature	-25°C~+65°C
Working temperature	-30°C~+60°C
Relative temperature	Humidity: 35-85% RH; Storage: 35-85% RH
Voltage withstand	At 2000V AC50/60Hz for 1 minute
Additional features	Can add TEDS function
characteristic	Zero point tracking, creep tracking, and adjustable analog quantities

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ECA-FD02V - Force-transmitter series

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Working voltage	12-30V/DC
Input sensitivity	0.4-6mv/v
Excitation voltage	5VDC, 100mA (maximum of 6 sensors, 35 Ω)
Maximum sampling rate	Up to 1280Hz
Zero drift	<0.02uV/°C
Gain drift	±5PPM/°C
Nondimensional	0.05%F.S
Communication function	Choose between RS232 and Rs485; Modbus RTU protocol and free protocol
Display accuracy	1/10000
A/D performance	24 bit, Delta Sigma method
Sampling and output rate	10. 40, 640, 1280 times/sec
Storage temperature	-25°C~+65°C
Working temperature	-30°C~+60°C
Relative temperature	Humidity: 35-85% RH; Storage: 35-85% RH
Voltage withstand	At 2000V AC50/60Hz for 1 minute
Additional features	Can add TEDS function
characteristic	Zero point tracking, creep tracking, and adjustable analog quantities
V voltage output	0-10V / 0-5V

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ECA-FD02V/A - Force-transmitter series

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PARAMETER	VALUE
Optional model	- Standard configuration - A1 - C1 - C2 - TS - K
Remarks Description	- Switching quantity 2 outputs - Increase analog signal output - Increase RS485 output - Increase RS232 output (choose 1 out of 2 from Rs485) - Added TES calibration free function (sensors must have this function) - DIN-Rail Mounting
Working voltage	12-30V/DC
Input sensitivity	0.4-6mv/v
Excitation voltage	5VDC, 100mA (maximum of 6 sensors, 35 Ω)
Maximum sampling rate	Up to 1280Hz
Zero drift	<0.02uV/°C
Gain drift	±5PPM/°C
Nondimensional	0.05%F.S
Communication function	Choose between RS232 and Rs485; Modbus RTU protocol and free protocol
Display accuracy	1/10000
Analog signal output	4-20mA; 0-5V; 0-10V; Resolution of 1/3000 (optional)
A/D performance	24 bit, Delta Sigma method
Sampling and output rate	10. 40, 640, 1280 times/sec
Analog output	0~± 10V, 0-20mA, 4-20mA; Resolution of 1/3000
Storage temperature	-25°C~+65°C
Working temperature	-30°C~+60°C
Relative temperature	Humidity: 35-85% RH; Storage: 35-85% RH
Voltage withstand	At 2000V AC50/60Hz for 1 minute
Additional features	Can add TEDS function
characteristic	Zero point tracking, creep tracking, and adjustable analog quantities

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ECA-FD106 - Force-transmitter series

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Working voltage	10-30V/DC
Input signal	04-6mv/v
Excitation voltage	5V/DC $\pm 2\%$ 100mA
A/D resolution	24-bit
Output port	Choose between RS232 or RS485, and can add analog output
Communication protocol	Modbus RTU/ASCII/FREE Free Protocol 0-20mA/4-20mA/-10-10V/0-5V/0-10V, etc
Signal transmission rate	1200/2400/4800/9600/19200/38400/57600/115200
Driving ability	6 350 Ω sensors
Overall dimensions	87.5*72*25.7mm
Switching quantity	3-point transistor output, 24V/14A load capacity, 2-way input
Working temperature	-30-60°C
A/D conversion rate	10/40/640/1280/S
Display accuracy	1/10000 precision 5-bit or 6-bit red digital display
Protection level	Ip55

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ECA-FD106-MC - Force-transmitter series

Confirm the exact variant and application conditions with HTROBOT.



PARAMETER	VALUE
Working voltage	10-30V/DC
Input signal	04-6mv/v
Excitation voltage	5V/DC $\pm 2\%$ 100mA
A/D resolution	24-bit
Output port	Choose between RS232 or RS485, and can add analog output
Communication protocol	Modbus RTU/ASCII/FREE Free Protocol 0-20mA/4-20mA/-10-10V/0-5V/0-10V, etc
Signal transmission rate	1200/2400/4800/9600/19200/38400/57600/115200
Driving ability	6 350 Ω sensors
Overall dimensions	87.5*72*25.7mm
Switching quantity	3-point transistor output, 24V/14A load capacity, 2-way input
Working temperature	-30-60°C
A/D conversion rate	10/40/640/1280/S
Display accuracy	1/10000 precision 5-bit or 6-bit red digital display
Protection level	Ip55

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Using these specifications

All 26 models have an English product PDF. Parameter tables keep the published model values, units, and applicable variant or rated-load conditions. Series text is limited to the published product descriptions.

Drawing PDFs are included only where a real housing, installation, or motor view is available. Wiring diagrams stay with the model reference when no separate installation view exists. These pages are not CAD files.

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