

## Electrak® Throttle Actuator

The Next Generation of Throttle Control Technology

[www.thomsonlinear.com](http://www.thomsonlinear.com)

**THOMSON**  
*Linear Motion. Optimized.™*

**BIBUS**

**BIBUS s.r.o.**  
+420 547 125 300  
[www.bibus.cz](http://www.bibus.cz)

## Introducing the Thomson Electrak® Throttle Actuator

Transforming throttle control through innovative design

Thomson has taken the rugged, dependable features of the E050 Electrak® actuator and added capabilities making the throttle actuator an ideal solution for industrial vehicles where throttle control is required. It offers:

- Trusted performance
- Simplified installation
- Space-saving design
- Reduced environmental impact
- Minimal maintenance

Simplify installation and increase operator safety and productivity with the space-saving design and electromechanical interface, allowing engine speed controls to be placed in ergonomic positions.

Reduce the environmental impact of a vehicle by utilizing on-board electronic options such as the analog position feedback sensor, electronic limit switches, and CANBUS communication (SAE J1939), to automatically control engine RPM based upon engine demand to increase productivity while reducing fuel consumption, noise and emissions.

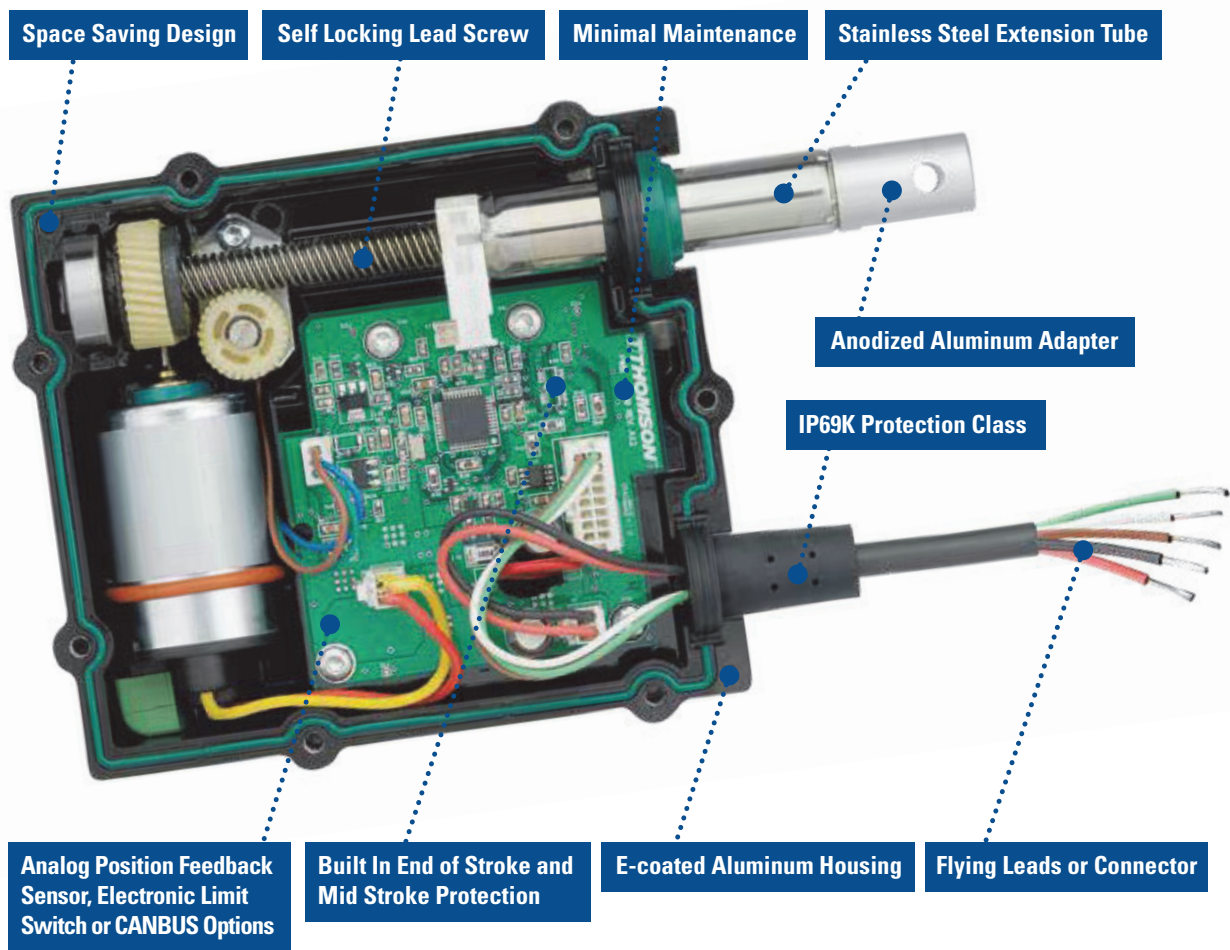
The rugged aluminum housing offers IP69K/IP67 sealing and is e-coated for corrosion resistance to make the throttle actuator virtually maintenance-free.

Need something extra? The Electrak® Throttle actuator can be tailored to your specific application requirements and Thomson engineers are always available to help select an actuator for your application needs.



## The Electrak® Throttle Actuator at a Glance

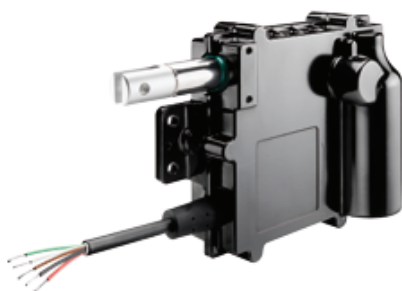
The new Electrak® Throttle Actuator was developed to be the most robust, reliable, and versatile actuator for throttle control applications. Enjoy a simpler and more efficient vehicle design process with the following product innovations:



### Applications

- Agricultural vehicles
- Marine applications
- Street sweepers
- Auxiliary engines
- Mobile generators
- Construction equipment
- Military and rescue vehicles
- Trucks
- Fork lifts
- Pump trucks
- Garden and forestry equipment
- Mass transport vehicles
- Mining equipment
- Industrial automation

## Specifications



### Standard Features and Benefits

- Designed for industrial applications
- Rugged aluminum housing with IP69K/IP67 sealing
- E-coated housing for corrosion resistance
- Minimal maintenance
- Integrated electronic options
- High end features at a low cost
- Integrated mounting holes

### General Specifications

Parameter	Electrak Throttle
Screw type	worm
Internally restrained	yes
Manual override	no
Dynamic braking with option CN with option NP, FN, FP	yes no
Holding brake	no (self locking)
End of stroke protection	yes
Mid stroke protection	yes
Motor protection with temperature rating S with temperature rating E	auto reset thermal switch no
Motor connection	flying leads or Deutsch connector
Certificates	CE, RoHS
Options	<ul style="list-style-type: none"> <li>• extended temperature range</li> <li>• adapter orientation</li> <li>• right angle cable exit</li> <li>• analog position feedback sensor</li> <li>• internal end of stroke limit switches</li> <li>• CANBUS SAE J1939</li> </ul>

### Performance Specifications

Parameter	Electrak Throttle
Maximum load, dynamic / static [N (lbf)] ET••-084 <sup>(1)</sup> ET••-174	45 (10) / 90 (20) 130 (30) / 260 (60)
Speed, no load / at max. load [mm/s (in/s)] ET••-084 <sup>(1)</sup> ET••-174	96 (3.7) / 83 (3.3) 48 (1.9) / 37 (1.45)
Available input voltages [VDC]	12, 24
Current draw, max. <sup>(2)</sup> 12 VDC models 24 VDC models	4 2
Operating temperature, min [°C (F)]	- 40 (-40)
Operating temperature, max ET••-•••••S ET••-•••••E	85 (185) 125 (257)
Full load duty cycle @ 25 °C <sup>(3)</sup> [%]	50
End play, maximum [mm (in)]	1.5 (0.06)
Restraining torque [Nm (lbf-in)]	0
Motor cable lead cross section [mm² (AWG)]	0.8 (18)
Motor cable length [mm (in)]	165 (6.5)
Protection class	IP69K, IP67
Operational life [cycles]	500000
Retracted length [mm (in)]	184.7 (7.27)
Stroke length [mm (in)]	50.8 (2)
Weight [kg (lbs)]	1.11 (2.5)
Analog feedback sensor linearity [± %]	1

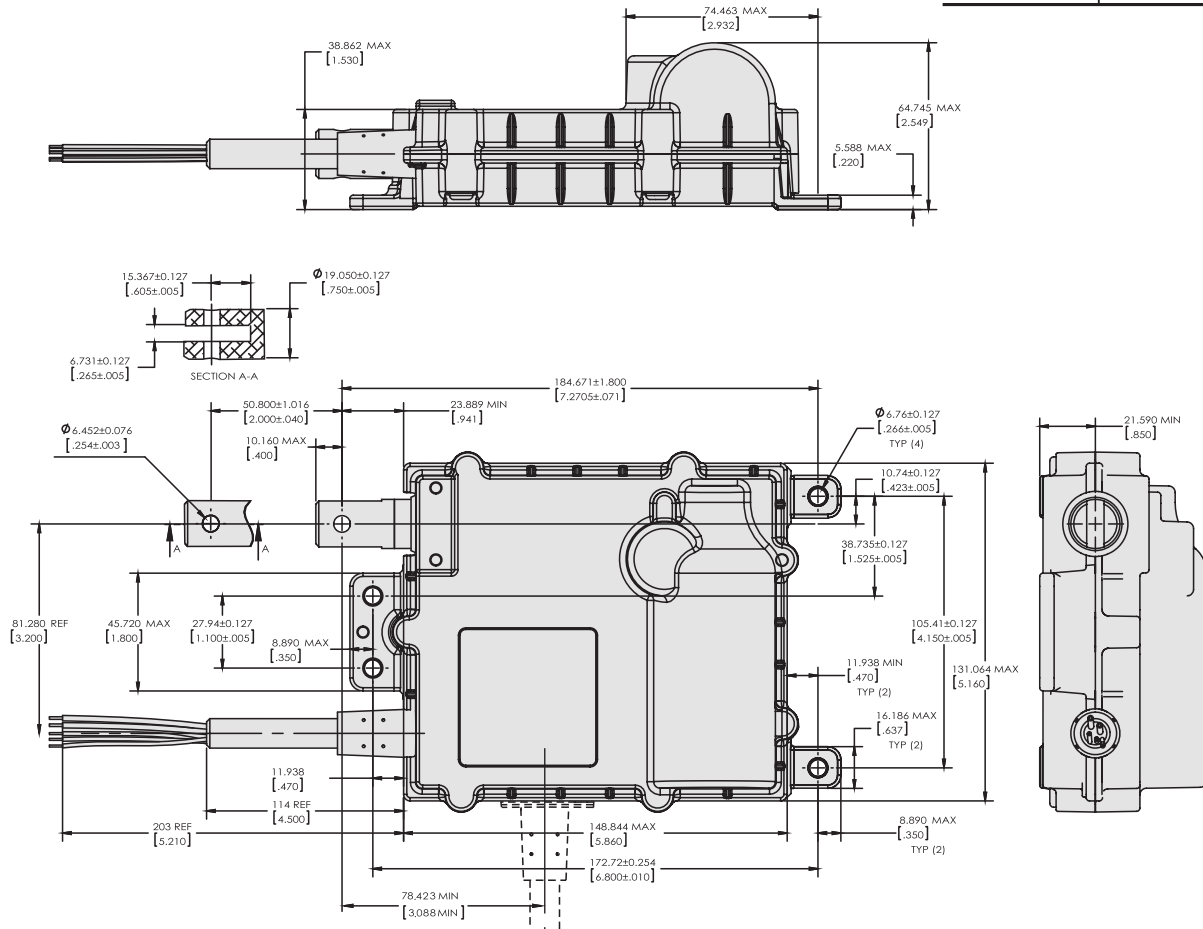
<sup>(1)</sup> The ET••-084 (high speed version) can only be ordered in combination with operating temperature rating E.

<sup>(2)</sup> Max. current draw ratings do not include motor inrush current. Typical inrush current values are 12 A at 12 VDC and 6 A at 24 VDC.

<sup>(3)</sup> For all models and load ranges.

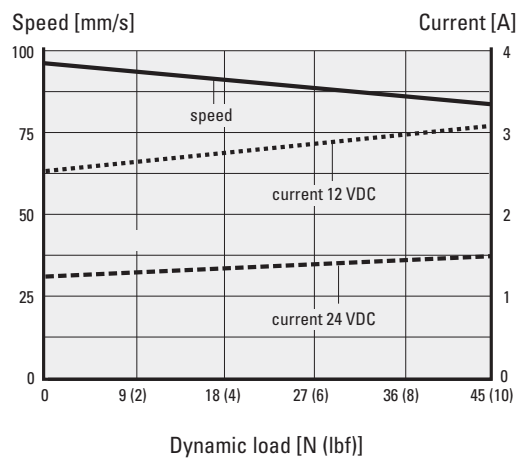
# Dimensions and Performance Diagrams

Dimensions	Projection
METRIC [INCH]	

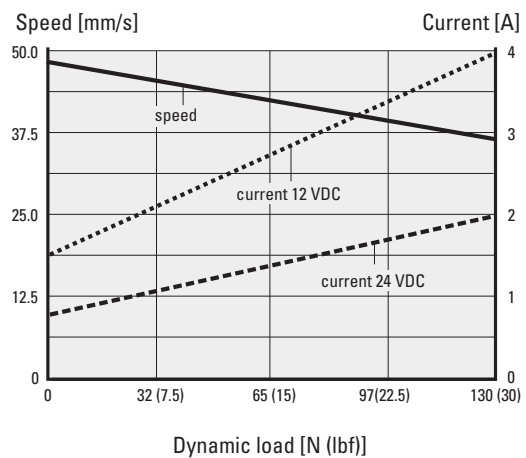


## Performance Diagrams

ET●●-084



ET●●-174



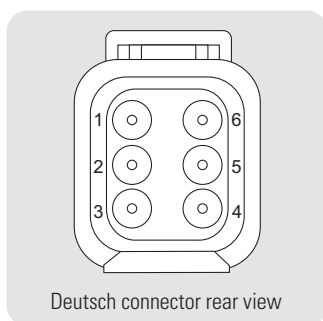
## Electrical Installation

### Cable and Connector Installation

Connect the actuator according to the table below. Actuator will extend if connected as in the table, shift polarity between red (pin 1) and black (pin 3) leads and it will retract. Mating Deutsch connector kit can be ordered from Thomson (P/N 9100-448-021). Note: Connector pin 2 is not used, but contains a sealing plug.

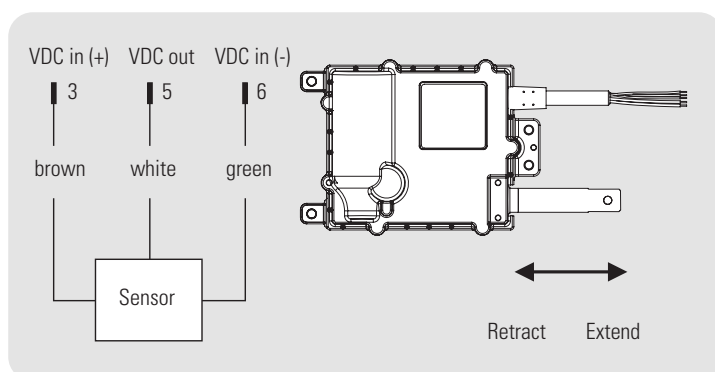
Option name and order key code	Lead color or Deutsch DTM04-6P connector pin number				
	Red (1)	Black (3)	Brown (4)	White (5)	Green (6)
<b>Analog position feedback sensor (NP)</b>	Motor (+)	Motor (-)	VDC in (+)	VDC out	VDC in (-)
<b>End of stroke limit switches (FN)</b>	Motor (+)	Motor (-)	-	-	-
<b>Analog position feedback sensor and limit switches (FP)</b>	Motor (+)	Motor (-)	VDC in (+)	VDC out	VDC in (-)
<b>CANBUS SAE J1939 (CN)</b>	Power (+)	Power (-)	CAN High	CAN Shield*	CAN Low

\* Not required to connect.



### Analog Position Feedback Sensor Installation Data

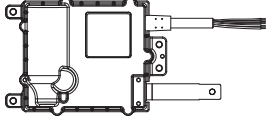
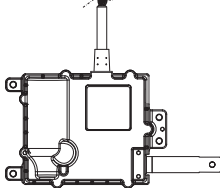
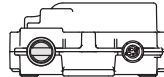
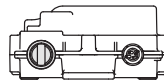
Brown (pin 3) and green (pin 6) are connected to a voltage source. When extending the actuator the voltage will increase between green (pin 6) and white (pin 5).



Sensor Specifications		
Input voltage, max. (VDC in)	[VDC]	32
Output voltage (VDC out)	[VDC]	< 5 % VDC in > 75% VDC in
at fully retracted		
at fully extended		
Max. output current	[mA]	1
Linearity	[± %]	1



## Ordering Key

Ordering Key							
Position	1	2	3	4	5	6	7
Example	ET12-	084-	S	S	NP	1	S
<p>1. Actuator type and supply voltage ET12- = Electrak® Throttle, 12 VDC ET24- = Electrak® Throttle, 24 VDC</p> <p>2. Max. dynamic load and speed version 084- = 45 N (10 lbf), high speed* 174- = 130 N (30 lbf), standard speed</p> <p>3. Harness orientation S = parallel to adapter R = rotated 90° in housing</p> <p>S</p>  <p>R</p> 			<p>4. Temperature rating S = standard: -40 (-40) to +85 (+185) °C (F) E = high temperature: -40 (-40) to +125 (+257) °C (F)</p> <p>5. Control option NP = analog position feedback sensor FN = end of stroke limit switches FP = analog position feedback sensor and end of stroke limit switches CN = CANBUS SAE J1939</p>			<p>6. Connection options 1 = flying leads 2 = Deutsch DTM04-6P connector</p> <p>7. Adapter options S = standard adapter orientation M = adapter rotated 90°</p> <p>S</p>  <p>M</p> 	

\* Can only be ordered with high temperature rating (code E in position 4). Note that there is no thermal switch to protect the motor on the high temperature rated models.

## **EUROPE**

### **United Kingdom**

Thomson  
Phone: +44 (0) 1271 334 500  
Fax: +44 (0) 1271 334 501  
E-mail: sales.uk@thomsonlinear.com

### **Germany**

Thomson  
Nürtinger Straße 70  
72649 Wolfschlügen  
Phone: +49 (0) 7022 504 0  
Fax: +49 (0) 7022 504 405  
E-mail: sales.germany@thomsonlinear.com

### **France**

Thomson  
Phone: +33 (0) 243 50 03 30  
Fax: +33 (0) 243 50 03 39  
E-mail: sales.france@thomsonlinear.com

### **Italy**

Thomson  
Largo Brughetti  
20030 Bovisio Masciago  
Phone: +39 0362 594260  
Fax: +39 0362 594263  
E-mail: info@thomsonlinear.it

### **Spain**

Thomson  
Rbla Badal, 29-31 7th, 1st  
08014 Barcelona  
Phone: +34 (0) 9329 80278  
Fax: + 34 (0) 9329 80278  
E-mail: sales.esm@thomsonlinear.com

### **Sweden**

Thomson  
Estridsväg 10  
29109 Kristianstad  
Phone: +46 (0) 44 24 67 00  
Fax: +46 (0) 44 24 40 85  
E-mail: sales.scandinavia@thomsonlinear.com

## **SOUTH AMERICA**

Thomson  
Sao Paulo, SP Brasil  
Phone: +55 11 3879 6600  
Fax: +55 11 3879 6656  
Email: sales.brasil@thomsonlinear.com

## **USA, CANADA and MEXICO**

Thomson  
203A West Rock Road  
Radford, VA 24141, USA  
Phone: 1-540-633-3549  
Fax: 1-540-633-0294  
E-mail: thomson@thomsonlinear.com  
Literature: literature.thomsonlinear.com

## **ASIA**

### **Asia Pacific**

Thomson  
750, Oasis, Chai Chee Road,  
#03-20, Technopark @ Chai Chee,  
Singapore 469000  
E-mail: sales.hk@thomsonlinear.com

### **China**

Thomson  
Rm 2205, Scitech Tower  
22 Jianguomen Wai Street  
Beijing 100004  
Phone: +86 400 6661 802  
Fax: +86 10 6515 0263  
E-mail: sales.china@thomsonlinear.com

### **India**

Thomson India  
1001, Sigma Building  
Hiranandani Business Park  
Powai, Mumbai – 400076  
Phone: +91 22 422 70 300  
Fax: +91 22 422 70 338  
E-mail: sales.india@thomsonlinear.com

### **Japan**

Thomson  
Minami-Kaneden 2-12-23, Suita  
Osaka 564-0044  
Phone: +81-6-6386-8001  
Fax: +81-6-6386-5022  
E-mail: csinfo\_dicgj@danaher.co.jp

### **Korea**

Thomson  
F12 Ilsong Bldg, 157-37  
Samsung-dong, Kangnam-gu  
Seoul (135-090)  
Phone: +82 2 6917 5049  
Fax: +82 2 6917 5007  
E-mail: sales.korea@thomsonlinear.com

[www.thomsonlinear.com](http://www.thomsonlinear.com)

Electrak\_Throttle\_Actuator\_BRUK-0006-01B | 11 November 2013 TJ  
Specifications are subject to change without notice. It is the responsibility of the product user to determine the suitability of this product for a specific application. All trademarks property of their respective owners. © Thomson Industries, Inc. 2013



*Linear Motion. Optimized.*

# **BIBUS**

**BIBUS s.r.o.**  
+420 547 125 300  
[www.bibus.cz](http://www.bibus.cz)