



# LM80-V – Technical Features



## Standard Features

- Rodless actuator for vertical operation with motor down
- For use in domestic, office or medical applications
- Rigid, self-supporting extruded aluminium profile
- Durable and corrosion free
- Holding brake prevents downward motion at power off
- Lightweight with quiet operation
- Safety nut on ball screw versions
- Easy and fast T-slot mounting
- Optional spline safety function
- Maintenance free

## General Specifications

Screw type	trapezoidal or ball
Nut type trapezoidal screw ball screw	polymer lead nut load lock ball nut
Manual override	no
Anti-rotation	yes
Static load holding brake	yes
Safety features	spring loaded soft stop
Electrical connections with motor enclosure without motor enclosure	cable with connector cable clips directly on motor
Compliances	CE

## Optional Mechanical Features

No motor enclosure
Manual override
Alternative motor positions
Spline safety function
Special stroke or stroke over 1500 mm (contact customer support)

## Optional Electrical Features

Encoder feedback (contact customer support)
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## Accessories

T-slot mounting kit
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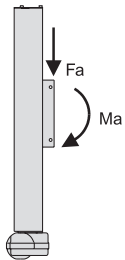
## Compatible Controls

Contact customer support at <a href="http://www.thomsonlinear.com/cs">www.thomsonlinear.com/cs</a>
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# LM80-V – Technical Specifications

Mechanical Specifications		
Max. load (Fa) <sup>(1)</sup>	[N (lbf)]	
DTxx-T68MxxxxV(F)		650 (146)
DTxx-B61MxxxxV(F)		1000 (225)
DTxx-B62MxxxxV(F)		450 (101)
DTxx-B65MxxxxV(F)		2000 (450)
Max. load torque (Ma) <sup>(1)</sup>	[Nm (lbf-in)]	
DTxx-T68MxxxxV(F)		250 (2213)
DTxx-B61MxxxxV(F)		400 (3540)
DTxx-B62MxxxxV(F)		180 (1593)
DTxx-B65MxxxxV(F)		750 (6638)
Speed @ no load/max. load	[mm/s (in/s)]	
DT12-T68MxxxxV(F)		44/29 (1.7/1.1)
DT24-T68MxxxxV(F)		44/35 (1.7/1.4)
DT12-B61MxxxxV(F)		55/37 (2.2/1.5)
DT24-B61MxxxxV(F)		55/43 (2.2/1.7)
DT12-B62MxxxxV(F)		110/67 (4.3/2.6)
DT24-B62MxxxxV(F)		110/83 (4.3/3.3)
DT12-B65MxxxxV(F)		28/19 (1.1/0.7)
DT24-B65MxxxxV(F)		28/22 (1.1/0.9)
Min. ordering stroke (S) length <sup>(2)</sup>	[mm]	500
Max. ordering stroke (S) length <sup>(2)</sup>	[mm]	1500
Ordering stroke length increments <sup>(2)</sup>	[mm]	100
Operating temperature limits	[°C (F)]	0–40 (32–104)
Full load duty cycle @ 20 °C (68 °F)	[%]	15
Maximum on time	[s]	120
Protection class - static		
with motor enclosure		IP44
without motor enclosure		IP33

(1) See below for definition of forces.



(2) For other stroke lengths, contact customer support.

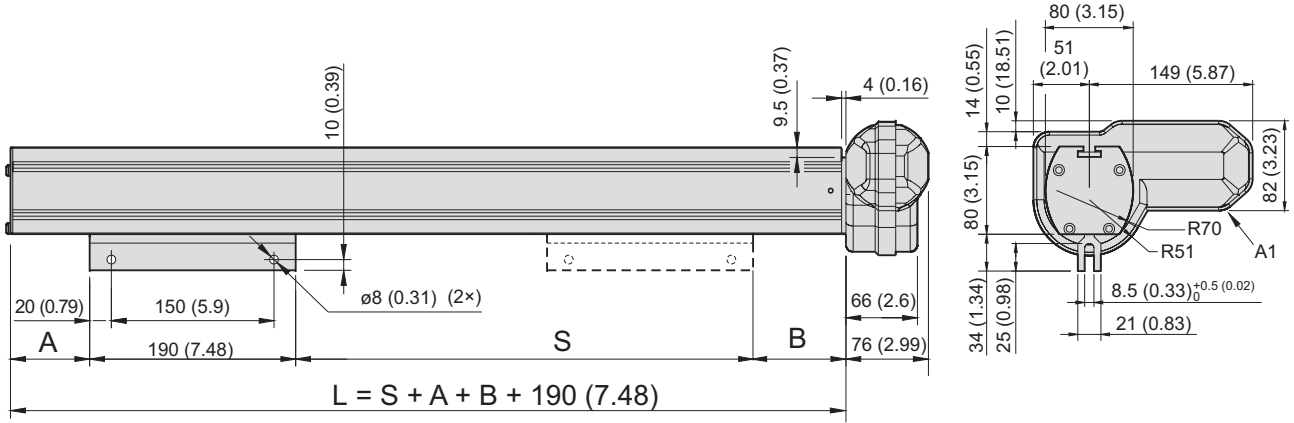
Electrical Specifications		
Available input voltages	[Vdc]	
DT12		12
DT24		24
Input voltage tolerance	[%]	± 10
Current draw @ no load/max. load	[A]	
DT12-T68MxxxxV(F)		6.3/17.0
DT24-T68MxxxxV(F)		3.0/6.0
DT12-B61MxxxxV(F)		6.3/17.0
DT24-B61MxxxxV(F)		3.0/6.0
DT12-B62MxxxxV(F)		6.3/17.0
DT24-B62MxxxxV(F)		3.0/6.0
DT12-B65MxxxxV(F)		6.3/17.0
DT24-B65MxxxxV(F)		3.0/6.0
Motor cable length	[m (in)]	
with motor enclosure		2000 (79)
without motor enclosure		-
Motor cable diameter	[mm (in)]	
with motor enclosure		5.7 (0.22)
without motor enclosure		-
Motor cable leads cross section	[mm <sup>2</sup> (AWG)]	
with motor enclosure		1.5 (16)
without motor enclosure		-



# LM80-V – Dimensions

**!** Note: this unit may only be mounted vertically with the motor down even if drawing shows it horizontally

Dimensions	Projection
mm [inch]	



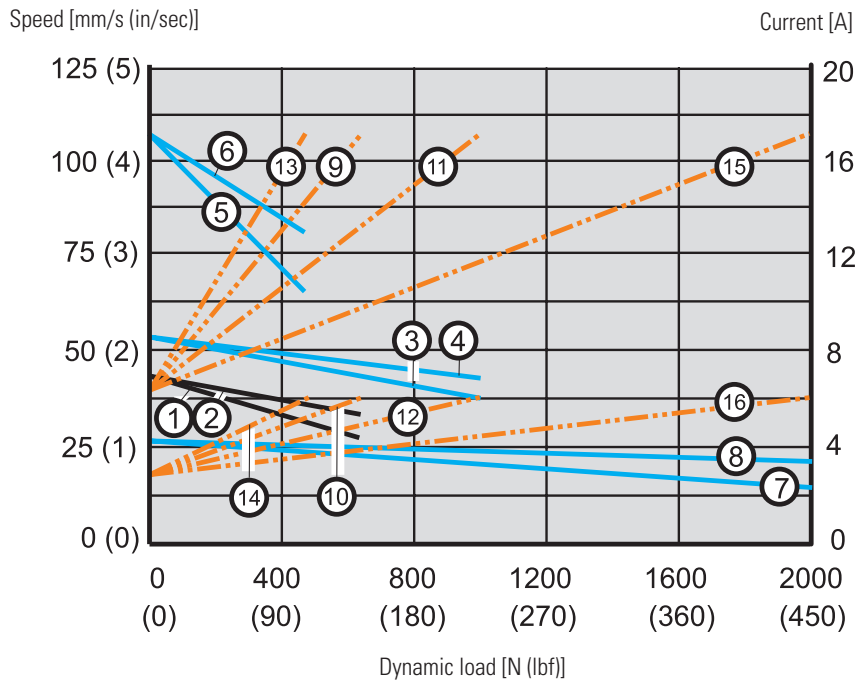
S: stroke  
 L: length of profile  
 A1: motor shown in position A (standard position)

## Stroke, Profile Length and Weight Relationships

Ordering stroke (S)	[mm]	500	600	700	800	900	1000	1100	1200	1300	1400	1500
Dimension (A) / (B)	[mm]	50.0 / 71.0 (50.0 / 90.0)										
DTxx -T68M xxxxx V(F)	[in]	2.0 / 2.8 ( 2.0 / 3.5)										
DTxx -B61M xxxxx V(F)	[mm]	53.0 / 120.0 (53.0 / 144.0)										
Dimension (A) / (B)	[in]	2.1 / 4.7 (2.1 / 5.7)										
DTxx -B62M xxxxx V(F)	[mm]	53.0 / 120.0 (53.0 / 144.0)										
Dimension (A) / (B)	[in]	2.1 / 4.7 (2.1 / 5.7)										
DTxx -B65M xxxxx V(F)	[mm]	53.0 / 97.0 (53.0 / 126.0)										
Dimension (A) / (B)	[in]	2.1 / 3.8 (2.1 / 5.0)										
Weight	[kg]	11.1	12.9	14.7	16.5	18.2	20.0	21.8	23.6	25.4	27.2	28.9
DTxx -T68M xxxxx V(F)		(11.6)	(13.4)	(15.2)	(17.0)	(18.7)	(20.5)	(22.3)	(24.1)	(25.9)	(27.7)	(29.4)
	[lbs]	24.2	28.4	32.3	36.3	40.0	44.0	48.0	51.9	55.9	59.8	63.6
		(25.5)	(29.5)	(33.4)	(37.4)	(41.1)	(45.1)	(49.0)	(53.0)	(57.0)	(60.9)	(64.7)
Weight	[kg]	11.6	13.4	15.2	17.0	18.7	20.5	22.3	24.1	25.9	27.7	29.5
DTxx -B61M xxxxx V(F)		(12.1)	(13.9)	(15.7)	(17.5)	(19.2)	(21.0)	(22.8)	(24.6)	(26.4)	(28.2)	(30.0)
	[lbs]	25.5	29.5	33.4	37.4	41.1	45.1	52.4	53.0	57.0	61.0	64.9
		(26.6)	(30.6)	(34.5)	(38.5)	(42.2)	(46.2)	(50.2)	(54.1)	(58.1)	(62.0)	(66.0)
Weight	[kg]	11.6	13.4	15.2	17.0	18.7	20.5	22.3	24.1	25.9	27.7	29.5
DTxx -B62M xxxxx V(F)		(12.1)	(13.9)	(15.7)	(17.5)	(19.2)	(21.0)	(22.8)	(24.6)	(26.4)	(28.2)	(30.0)
	[lbs]	25.5	29.5	33.4	37.4	41.1	45.1	52.4	53.0	57.0	61.0	64.9
		(26.6)	(30.6)	(34.5)	(38.5)	(42.2)	(46.2)	(50.2)	(54.1)	(58.1)	(62.0)	(66.0)
Weight	[kg]	12.0	13.8	15.6	17.6	19.3	21.1	22.9	24.7	26.5	28.2	30.1
DTxx -B65M xxxxx V(F)		(12.5)	(14.3)	(16.1)	(18.1)	(19.8)	(21.6)	(23.4)	(25.2)	(27.0)	(28.7)	(30.6)
	[lbs]	26.4	30.4	34.3	38.7	42.5	46.4	50.4	54.3	58.3	62.0	66.2
		(27.5)	(31.5)	(35.4)	(39.8)	(43.6)	(47.5)	(51.5)	(55.4)	(59.4)	(63.1)	(67.3)

# LM80-V – Performance Diagrams

Speed and Current vs. Load



**Speed**

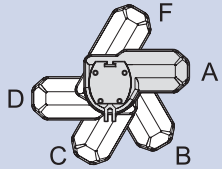
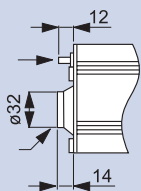
- 1: DT12-T68MxxxxV(F)
- 2: DT24-T68MxxxxV(F)
- 3: DT12-B61MxxxxV(F)
- 4: DT24-B61MxxxxV(F)
- 5: DT12-B62MxxxxV(F)
- 6: DT14-B62MxxxxV(F)
- 7: DT12-B65MxxxxV(F)
- 8: DT24-B65MxxxxV(F)
- ..

**Current**

- 9: DT12-T68MxxxxV(F)
- 10: DT24-T68MxxxxV(F)
- 11: DT12-B61MxxxxV(F)
- 12: DT24-B61MxxxxV(F)
- 13: DT12-B62MxxxxV(F)
- 14: DT24-B62MxxxxV(F)
- 15: DT12-B65MxxxxV(F)
- 16: DT24-B65MxxxxV(F)



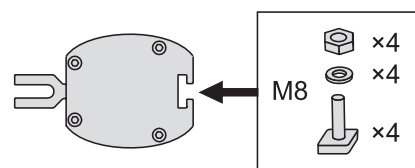
# LM80-V – Ordering Key

Ordering Key						
1	2	3	4	5	6	7
<b>DT12-</b>	<b>B62M-</b>	<b>100</b>	<b>A</b>	<b>C</b>	<b>V</b>	<b>X</b>
<p><b>1. Model and input voltage</b>            DT12 - = LM80, 12 Vdc            DT24 - = LM80, 24 Vdc</p> <p><b>2. Load torque capacity and screw type</b>            T68M - = 250 N (56 lbf), trapezoidal screw            B61M - = 400 N (90 lbf), ball screw            B62M - = 180 N (40 lbf), ball screw            B65M - = 750 N (169 lbf), ball screw</p> <p><b>3. Ordering stroke length</b>            050 = 500 mm            060 = 600 mm            070 = 700 mm            080 = 800 mm            090 = 900 mm            100 = 1000 mm            110 = 1100 mm            120 = 1200 mm            130 = 1300 mm            140 = 1400 mm            150 = 1500 mm</p>			<p><b>4. Motor orientation</b>            A = 0° (standard)            B = 60°            C = 120°            D = 180°            F = 300°</p>  <p><b>5. Motor enclosure</b>            C = with enclosure (IP44)            U = no enclosure (IP33)</p> <p><b>6. Mounting orientation and spline safety feature</b>            V = vertical with motor down, without spline safety feature            F = vertical with motor down, with spline safety feature</p> <p><b>7. Options</b>            X = no option            H = manual override <sup>(1)</sup></p> <p>(1) Manual override dimensions</p>  <p>Hexagon socket with plastic cover (4 mm Allen key included)</p>			

# LM80-V – Accessories

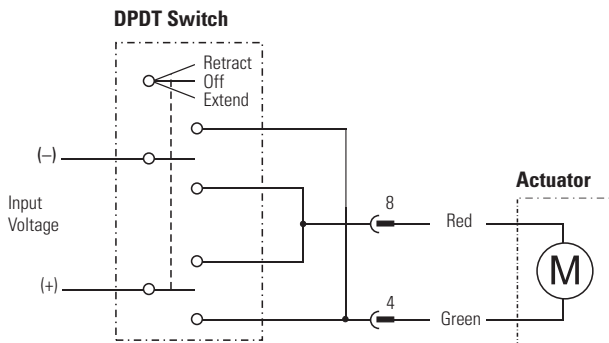
T-slot Mounting Kit	
Designation	Part Number
M8 T-slot mounting kit	D680507

The T-slot mounting kit consists of four T-slot bolts, washers and nuts that fit in to the T-slot running along the profile. The T-slot mounting kit can be used to mount the unit or/and for attaching other components to the profile.

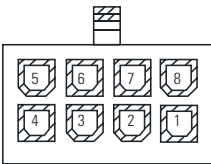


# LM80-V – Electrical Connections

Without Option (standard)		
Actuator supply voltage	[Vdc]	
DT12		12
DT24		24



## Connector pin configuration (front view)



Connect the green lead (connector pin 4) to positive and red (pin 8) to negative to extend the actuator. Change polarity to retract the actuator.