

# Technical data

## OT16E3 – OT160E3

### UL & CSA

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Catalog number	3 pole	OT16E3	OT25E3	OT32E3	OT45E3	OT63E3	OT30E3	OT60E3	OT100E3	OT160E3	
Approvals <sup>①</sup>	2 pole 3 pole 4 pole	N/A UL508 & IEC UL508 & IEC	N/A UL508 & IEC UL508 & IEC	N/A UL508 & IEC UL508 & IEC	N/A UL508 & IEC UL508 & IEC	N/A UL508 & IEC UL508 & IEC	N/A UL98 & IEC UL98 & IEC	N/A UL98 & IEC UL98 & IEC	N/A UL98 & IEC UL98 & IEC	UL98 & IEC UL98 & IEC UL98 & IEC	
<b>General purpose amp rating</b> -40° to 40°C pf = 0.7 – 0.8	<b>A</b>	<b>16</b>	<b>25</b>	<b>40</b>	<b>60</b>	<b>80</b>	<b>30</b>	<b>60</b>	<b>100</b>	<b>125</b>	
Max. operating voltage	V	600	600	600	600	600	600	600	600	600	
<b>Max. horsepower rating/motor FLA current,</b> pf = 0.4 – 0.5											
Three phase	200V – 208V 240V 480V 600V	HP/A HP/A HP/A HP/A	3/10.6 5/15.2 10/14.0 10/11.0	7.5/24.2 7.5/22.0 15/21.0 20/22.0	10/30.8 10/28.0 20/27.0 25/27.0	15/46.2 15/42.0 30/40.0 30/32.0	20/60.0 20/54.0 40/52.0 40/41.0	10/30.8 10/28.0 20/27.0 30/32.0	20/60.0 20/54.0 40/52.0 40/41.0	25/75.0 30/80.0 50/65.0 50/52.0	30/88.0 40/104.0 75/96.0 100/99.0
Single phase	120V 240V	HP/A HP/A	1/16 2/13.2	1.5/20 3/18.7	2/24 5/30.8	2/24.0 7.5/40.0	2/24.0 10/57.5	2/24.0 5/28.0	3/34.0 7.5/40.0	5/56.0 15/68.0	7.5/80 20/88.0
<b>Short circuit rating with fuse</b>											
Fuse type	CC J T RK1 RK5 L H	KA KA KA KA KA KA KA	10 10 10 10 5 — —	— 10 10 — 5 — —	10 10 10 10 5 — —	— 10 10 — 10 — —	— 100 100 — 10 — —	— 100 100 — 10 — —	— 50 50 — — — —	— 50 50 — — — —	— 100 — — — — —
Maximum fuse size	A	30 60 <sup>④</sup>	30 60 <sup>④</sup>	30 60 <sup>④</sup>	100 150	100 150	60 —	150 —	150 —	150 —	200
3 cycle short circuit current withstand rating <sup>⑤</sup>	kA	—	—	—	—	—	—	—	—	25	
<b>Endurances</b>											
Min. Electrical endurance, pf = 0.75 – 0.80	operation cycles	6000	6000	6000	6000	6000	6000	6000	6000	6000	
Min. Electrical endurance, pf = 0.40 – 0.50	operation cycles	1000	1000	1000	1000	1000	②	②	②	②	
Mechanical endurance	operations	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	16,000	
<b>Physical characteristics</b>											
Weight, switches	3 pole 4 pole	lb lb	0.24 0.33	0.24 0.33	0.24 0.33	0.59 0.77	0.59 0.77	0.79 1.10	0.79 1.10	0.79 1.10	2.42 2.86
Dimension, switches	3 pole	H in W in D in	2.68 1.38 2.20	2.68 1.38 2.20	2.68 1.38 2.20	3.60 2.07 2.85	3.60 2.07 2.85	3.94 2.76 2.95	3.94 2.76 2.95	3.94 2.76 2.95	5.00 4.96 2.93
Shaft set screw tightening torque	lb. in.	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
Shaft size — square □	in mm	.20 x .20 5 x 5	.20 x .20 5 x 5	.20 x .20 5 x 5	.20 x .20 5 x 5	.20 x .20 5 x 5	.20 x .20 5 x 5	.20 x .20 5 x 5	.20 x .20 5 x 5	.20 x .20 5 x 5	.24 x .24 6 x 6
Switch operating torque for rotary 3 pole switches	lb. in.	8.8	8.8	8.8	10.5	10.5	17.5	17.5	17.5	17.5	52.5
<b>Terminal lug kits</b>											
Wire range	AWG	Not required #18 – 8	Not required #18 – 8	Not required #18 – 8	Not required #14 – 1	Not required #14 – 1	Not required #14 – 4	Not required #14 – 4	Not required #8 – 1/0	Not required #8 – 1/0	
Torque:											
Wire tightening	lb. in.	7	7	7	18	18	55	55	55	70	
Lug mounting	lb. in.	Integral	Integral	Integral	Integral	Integral	Integral	Integral	Integral	Integral	
<b>Auxiliary contacts</b>											
NEMA ratings, AC		OA1G_ _ A600	OA1G_ _ A600	OA1G_ _ A600	OA1G_ _ A600	OA1G_ _ A600	OA1G_ _ A600	OA1G_ _ A600	OA1G_ _ A600	OA1G_ _ A600	OBEA_ _ A600
AC rated voltage	VAC	600	600	600	600	600	600	600	600	600	
AC thermal rated current	A	10	10	10	10	10	10	10	10	10	
AC maximum volt-ampere making	VA	7200	7200	7200	7200	7200	7200	7200	7200	7200	
AC maximum volt-ampere breaking	VA	720	720	720	720	720	720	720	720	720	
NEMA ratings, DC		R300	R300	R300	R300	R300	R300	R300	R300	P600	
DC rated voltage	VDC	300	300	300	300	300	300	300	300	600	
DC thermal rated current	A	1	1	1	1	1	1	1	1	5	
DC maximum make-break	VA	28	28	28	28	28	28	28	28	138	
Torque: Wire tightening	lb. in.	7	7	7	7	7	7	7	7	7	
Wire range	AWG	#18 – 14	#18 – 14	#18 – 14	#18 – 14	#18 – 14	#18 – 14	#18 – 14	#18 – 14	#22 – 14	

① UL Listed switches are also CSA Approved.

② UL98 overload test, 50 operations, pf 0.40 – 0.50 at 2x FLA.

③ Multi-tap lug available, please see pg. 18.24 and 18.27.

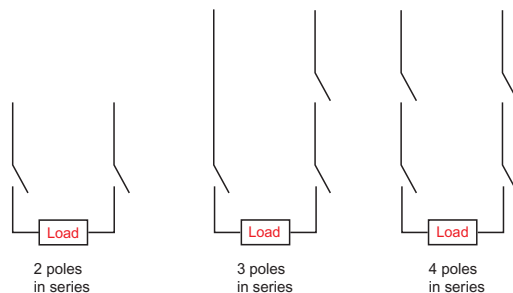
④ Fuse size 70A for RK5

⑤ When protected by any Listed fuse or Listed circuit breaker whose current rating does not exceed the maximum thermal current rating of the switch.

## Technical data OT16E3 – OT160E3 IEC

### IEC

Catalog number	3 pole	OT16E3	OT25E3	OT32E3	OT45E3	OT63E3	OT30E3	OT60E3	OT100E3	OT160E3	
Rated insulation and operation voltage, AC20 and DC20	40°C V	750	750	750	750	750	750	750	750	750	
Rated impulse withstand voltage	kV	8	8	8	8	8	8	8	8	12	
<b>Rated thermal current, I<sub>m</sub></b>											
AC 20/DC 20	open ①	A	25	32	40	63	80	40	63	115	200
	40°C enclosed	A	25	32	40	63	80	40	63	115	160
	60°C enclosed	A	25	32	40	63	80	40	63	115	160
<b>Rated operational currents</b>											
AC 21A	≤500V	A	<b>16</b>	<b>25</b>	<b>40</b>	<b>63</b>	<b>80</b>	<b>40</b>	<b>63</b>	<b>100</b>	<b>160</b>
	≤690V	A	16	25	40	63	80	40	63	100	160
	≤1000V	A	—	—	—	—	—	—	—	—	—
AC 22A	≤500V	A	16	25	40	63	80	40	63	100	160
	≤690V	A	16	25	40	63	80	40	63	100	160
	≤1000V	A	—	—	—	—	—	—	—	—	—
AC 23A	≤415V	A	16	20	23	45	75	40	63	80	135
	≤500V	A	16	20	23	45	58	40	60	60	125
	≤690V	A	10	11	12	20	20	40	40	40	80
	≤1000V	A	—	—	—	—	—	—	—	—	—
<b>Rated operational currents/poles in series</b>											
DC21A	48V	A	16/1	25/1	32/1	45/1	63/1	40/1	63/1	100/1	160/1
	110V	A	16/2	25/2	32/2	45/2	63/2	40/2	63/2	100/2	160/1
	220V	A	16/3	25/3	32/3	45/4	63/4	40/4	63/4	100/4	160/2
	440V	A	16/4	25/6	32/6	③	③	③	③	③	160/3
	750V	A	16/8	25/8	32/8	③	③	③	③	③	160/4
DC22A	48V	A	16/1	25/1	32/1	45/1	63/1	40/1	63/1	100/1	160/1
	110V	A	16/2	25/2	32/2	45/2	63/2	40/2	63/2	100/2	160/1
	220V	A	16/3	25/3	32/4	45/4	63/4	40/4	63/4	63/4	160/2
	440V	A	16/6	25/8	③	③	③	③	③	③	160/3
	750V	A	16/8	25/8	③	③	③	③	③	③	③
DC23A	48V	A	16/1	25/1	32/1	45/1	63/1	40/1	63/1	100/1	160/1
	110V	A	16/2	25/2	32/2	45/2	63/2	40/2	63/2	100/2	160/1
	220V	A	16/4	25/4	32/4	45/4	63/4	40/4	63/4	63/4	160/2
	440V	A	10/4	③	③	③	③	③	③	③	160/3
	750V	A	16/8	③	③	③	③	③	③	③	③
<b>Rated operational power</b>											
AC23A	230V	kW	3	4	5.5	11	22	7.5	11	22	45
	400/415V	kW	7.5	9	11	22	37	15	18.5	37	75
	500V	kW	7.5	9	11	22	37	15	18.5	37	75
	690V	kW	7.5	9	11	15	18.5	15	15	37	75
Short-circuit current	kA	50	50	50	50	50	50	50	50	100	
with back-up fuses of size	A	25	32	40	63	80	100	100	100	200	



① The ambient air temperature does not exceed +40°C and its average over a period of 24 hours does not exceed +35°C according to IEC 947.  
 ② IEC 947-3, utilization category B, infrequent operation.  
 ③ Not available at time of printing, please consult factory.

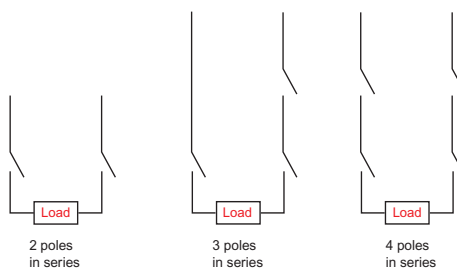
# Technical data

## OT16E3 – OT160E3

### IEC

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Catalog number	3 pole	OT16E3	OT25E3	OT32E3	OT45E3	OT63E3	OT30E3	OT60E3	OT100E3	OT160E3	
Rated voltage, U <sup>e</sup>	V/V	415/690	415/690	415/690	415/690	415/690	415/690	415/690	415/690	500/690	
Rated conditional short-circuit current	kA	50	50	50	50	50	50	50	50	100/50	
Max. allowed fuse size, type OFAA	A	25	32	40/32	63/50	80	100	100	100	200	
Max. allowed cut-off current, peak value	kA	6.5/4	6.5/4	6.5/4	8.3/6.7	11	18/10	18/10	18/10	30/25	
Rated short-circuit making capacity, prospective peak value, i <sup>cm</sup>	kA	0.7	0.7	0.7	1.4	1.4	3.6	3.6	3.6	12	
<b>Rated short time withstand current,</b>											
RMS i <sup>cw</sup>	0.2s	kA	—	—	—	—	—	—	—	7	
RMS i <sup>cw</sup>	1.0s	kA	0.5	0.5	0.5	1	1	2.5	2.5	4	
<b>AC breaking capacity</b>											
pf = 0.35	≤415V	A	128	160	184	240	304	320	504	640	1080
	≤500V	A	128	160	184	240	256	320	480	480	1000
	≤690V	A	80	88	96	160	160	320	320	320	640
<b>DC breaking capacity/poles in series</b>											
L/R = 15ms, 3 pole in series											
≤48V	A	64/1	100/1	128/1	180/1	252/1	160/1	252/1	400/1	640/1	
≤110V	A	64/2	100/2	128/2	180/2	252/2	160/2	252/2	400/2	640/1	
≤220V	A	64/3	100/4	128/4	180/4	180/4	160/4	252/4	252/4	640/2	
≤440V	A	①	①	①	①	①	①	①	①	640/3	
≤750V	A	①	①	①	①	①	①	①	①	①	
Capacitor ratings	≤400/415V	kVar	①	①	①	①	①	①	①	①	
<b>Physical characteristics</b>											
Electrical endurance at rated operational current, pf = 0.65 operation cycles											
Mechanical endurance operations											
Weight	3 pole	kg	0.11	0.11	0.11	0.27	0.27	0.36	0.36	0.36	1.1
	4 pole	kg	0.15	0.15	0.15	0.35	0.35	0.5	0.5	0.5	1.3
Dimension	3 pole	H mm	68	68	68	91.5	91.5	100	100	100	127
		W mm	35	35	35	52.5	52.5	70	70	70	126
		D mm	56	56	56	72.5	72.5	75	75	75	74.5
Power loss per pole		W	0.3	0.6	1	1.4	2.8	1	1.6	4	6.5
Shaft size — square □		mm	5 X 5	5 x 5	5 x 5	5 x 5	5 x 5	5 x 5	5 x 5	5 x 5	6 x 6
Switch operating torque for rotary 3 pole switches		Nm	1	1	1	1.2	1.2	2	2	2	6
Suitable conductor cross section Cu		mm <sup>2</sup>	0.75 – 10	0.75 – 10	0.75 – 10	1.5 – 25	1.5 – 25	1.5 – 25	1.5 – 25	10 – 70	10 – 70
Bolt size			—	—	—	—	—	—	—	—	—
Auxiliary contacts			OA1G_ _	OA1G_ _	OA1G_ _	OA1G_ _	OA1G_ _	OA1G_ _	OA1G_ _	OA1G_ _	OBEA_ _
Ratings according to IEC 947-5-1											
Rated voltage, U <sup>i</sup>	VAC		690	690	690	690	690	690	690	690	690
Thermal current, I <sub>th</sub>	A		16	16	16	16	16	16	16	16	10
AC12/DC12 I <sup>e</sup> , A	U <sup>e</sup> = 120V	A	—	—	—	—	—	—	—	—	8/—
	125V	A	—	—	—	—	—	—	—	—	—/1.1
	240V	A	6 ②	6 ②	6 ②	6 ②	6 ②	6 ②	6 ②	6 ②	6/—
	250V	A	—	—	—	—	—	—	—	—	—/0.55
	400V	A	4 ②	4 ②	4 ②	4 ②	4 ②	4 ②	4 ②	4 ②	4/—
	415V	A	—	—	—	—	—	—	—	—	4/—
	440V	A	—	—	—	—	—	—	—	—	—/0.31
	480V	A	—	—	—	—	—	—	—	—	3/—
	500V	A	—	—	—	—	—	—	—	—	3/0.27
	600V	A	—	—	—	—	—	—	—	—	—/0.2
	690V	A	2 ②	2 ②	2 ②	2 ②	2 ②	2 ②	2 ②	2 ②	2/—



① Not available at time of printing, please consult factory.  
② AC15, according to IEC947-5-1.