

# **Technical data** OT16E3 - OT160E3 **UL & CSA**

# **UL & CSA**

							JL G		•									
Catalog number	3 pole	OT	16E3	OT:	25E3	OT	32E3	OT4	5E3	OT6	3E3	OT3	80E3	ОТ	60E3	OT1	00E3	OT160E3
Approvals <sup>①</sup>	2 pole 3 pole 4 pole	UL50	I/A 8 & IEC 8 & IEC	UL50	N/A 8 & IEC 8 & IEC	UL50	N/A 8 & IEC 8 & IEC	N/ UL508 UL508	& IEC	UL508	/A B & IEC B & IEC	UL98	/A & IEC & IEC	UL98	/A & IEC & IEC	UL98	I/A & IEC & IEC	UL98 & IEC UL98 & IEC UL98 & IEC
	o 40°C		. ,		<b>.</b> -		10		0	_	•	_	^	,	^		00	105
pf = 0.7 - 0.8	Α	]	16	4	25		10	60	U	8	0	3	0	6	0	10	00	125
Max. operating voltage	V	6	000	6	500	6	000	60	0	60	00	60	00	61	00	6	00	600
Max. horsepower rating/motor FLA cur	rent,																	
pf = 0.4 - 0.5																		
Three phase 200V – 208V	HP/A	3/	10.6	7.5	/24.2	10/	30.8	15/4	16.2	20/6	0.0	10/	30.8	20/6	50.0	25/	75.0	30/88.0
240V	HP/A	5/	15.2	7.5	/22.0	10/	28.0	15/4	12.0	20/5	4.0	10/	28.0	20/5	54.0	30/	0.08	40/104.0
480V	HP/A	10/	14.0	15/	21.0	20/	27.0	30/4	10.0	40/5	52.0	20/	27.0	40/5	52.0	50/	65.0	75/96.0
600V	HP/A		/11.0		22.0		27.0	30/3		40/4			32.0	40/4		_	52.0	100/99.0
Single phase 120V	HP/A		/16	l	5/20		24	2/2		2/2			4.0	3/3			56.0	7.5/80
240V	HP/A	2/	13.2	3/	18.7	5/3	80.8	7.5/-	40.0	10/5	1.5	5/2	28.0	7.5/4	40.0	15/	68.0	20/88.0
Short circuit rating with fuse	LΛ	10		10		10											l _	
Fuse type CC Fuse type J	kA kA	10	10	10	10	10	10	100	_	100	_	50		50		50	_	100
Fuse type T	kA	10	10	10	10	10	10	100		100		50		50		50		_
Fuse type RK1	kA	10	_	10	_	10	_	_	_	_	_	_	_	_	_	_	_	_
Fuse type RK5	kA	5	5	5	5	5	5	10	5	10	5	_	_	_	_	_	_	_
Fuse type L	kA	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
Fuse type H	kA	_	_	_	_	_	_	_	5	_	5	_	_	_	_	_	_	_
Maximum fuse size	Α	30	60 ④	30	60 ④	30	60 ④	100	150	100	150	60	_	150	_	150	_	200
3 cycle short circuit current withstand ratio	ng ⑤ kA		_	-	_	-	_	-	-	_	-	-	_	-	-	-	_	25
Endurances																		
Min. Electrical endurance, pf = 0.75 – 0.80 operatio	n cycles	60	000	6	000	6	0000	60	00	60	00	60	000	60	00	60	000	6000
Min. Electrical endurance, pf = 0.40 – 0.50 operatio	n cycles	10	000	1	000	1	000	10	00	10	00	(	2	@			2	2
Mechanical endurance op	erations	20	,000	20	,000	20	0,000	20,0	000	20,0	000	20,	000	20,0	000	20	,000	16,000
Physical characteristics																		
Weight, switches 3 pole	lb	0	.24		0.24	(	0.24	0.9	59	0	.59	0.	79	0	.79	(	0.79	2.42
4 pole	lb	0	.33		0.33	(	0.33	0.	77	0	.77	1.	10	1	.10	·	1.10	2.86
Dimension, switches 3 pole	H in		.68		2.68		2.68	3.0			.60		94		.94		3.94	5.00
	W in		.38		1.38		1.38	2.0			.07		76		.76		2.76	4.96
	D in		.20		2.20		2.20	2.8			.85		95		.95		2.95	2.93
Shaft set screw tightening torque	lb. in.		3.9	_	8.9		8.9	8.			3.9		.9		3.9		8.9	8.9
Shaft size — square □	in mm		x .20 x 5	l	0 x .20 5 x 5		) x .20 5 x 5	5)	( .20 ( 5		x .20 x 5		x .20 x 5		x .20 x 5		) x .20 5 x 5	.24 x .24 6 x 6
Switch operating torque for rotary 3 pole switches	lb. in.		3.8		8.8		8.8	10			0.5		7.5		7.5		17.5	52.5
Terminal lug kits		Not re	equired	Not r	equired	Not re	equired	Not re	quired	Not re	quired	Not re	quired	Not re	equired	Not re	equired	Not required
Wire range	AWG		8 – 8	#1	8 – 8	#18	3 – 8	#14	- 1	#14		#14	- 4	#1-	4 – 4	#8 -	- 1/0	#8 – 1/0
Torque:																		
Wire tightening	lb. in.		7		7		7	1	8	1	8	5	5	!	55		55	70
Lug mounting	lb. in.	Inte	egral	Int	egral	Inte	egral	Inte	gral	Inte	gral	Inte	gral	Inte	egral	Inte	egral	Integral
Auxiliary contacts		OA.	1G	OA	1G	OA	1G	OA1	G	OA1	G	OA1	G	OA <sup>2</sup>	1G	OA1	IG	OBEA
NEMA ratings, AC			600	A	600		1600	A6	00	A6	00		000		600		500	A600
AC rated voltage	VAC		000	l	500		600	60		60			00		000		00	600
AC thermal rated current	Α		10	l	10		10	1		10			0		10		10	10
AC maximum volt-ampere making	VA VA		200	l	200		200	72		72			200		200		200	7200
AC maximum volt-ampere breaking	g VA		200	l	720		720	72		72 D2			20		'20 300		20	720 P600
NEMA ratings, DC DC rated voltage	VDC		300 300	l	300		300 300	R3		R3 30			300 30		300		300 00	P600 600
DC rated voltage  DC thermal rated current	VDC A		1	l	1		1	1		1			JU 1		1		1	5
DC maximum make-break	VA		28	l	28		28	2		2			!8		28		28	138
Torque: Wire tightening	lb. in		7		7		7	-		7			7		7		7	7
Wire range	AWG		3 – 14	#18	3 – 14	#1	8 – 14	#18		#18			- 14		3 – 14		- 14	#22 – 14

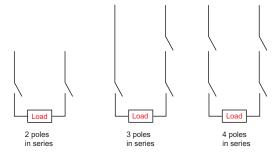
Low Voltage Products & Systems

UL Listed switches are also CSA Approved.
 UL98 overload test, 50 operations, pf 0.40 – 0.50 at 2x FLA.
 Multi-tap lug available, please see pg. 18.24 and 18.27.
 Fuse size 70A for RK5
 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**

					IE	EC .					
Catalog number	3	3 pole	OT16E3	OT25E3	OT32E3	OT45E3	OT63E3	OT30E3	OT60E3	OT100E3	OT160E3
Rated insulation and op	eration	40°C									
voltage, AC20 and DC2		v	750	750	750	750	750	750	750	750	750
Rated impulse withstan	d voltage	kV	8	8	8	8	8	8	8	8	12
Rated thermal current,	th.										
AC 20/DC 20	open ①	А	25	32	40	63	80	40	63	115	200
	40°C enclosed	A b	25	32	40	63	80	40	63	115	160
	60°C enclosed	A b	25	32	40	63	80	40	63	115	160
Rated operational curre	nts										
AC 21A	≤500V	Α	16	25	40	63	80	40	63	100	160
	≤690V	Α	16	25	40	63	80	40	63	100	160
	≤1000V	Α	_	_	_	_	_	_	_	_	_
AC 22A	≤500V	Α	16	25	40	63	80	40	63	100	160
	≤690V	Α	16	25	40	63	80	40	63	100	160
	≤1000V	Α	_	_	_	_	_	_	_	_	_
AC 23A	≤415V	Α	16	20	23	45	75	40	63	80	135
	≤500V	Α	16	20	23	45	58	40	60	60	125
	≤690V	Α	10	11	12	20	20	40	40	40	80
	≤1000V	Α	_	_	_	_	_	_	_	_	_
Rated operational curre	nts/poles in serie	!S									
DC21A	48V	Α	16/1	25/1	32/1	45/1	63/1	40/1	63/1	100/1	160/1
	110V	Α	16/2	25/2	32/2	45/2	63/2	40/2	63/2	100/2	160/1
	220V	Α	16/3	25/3	32/3	45/4	63/4	40/4	63/4	100/4	160/2
	440V	Α	16/4	25/6	32/6	3	3	3	3	3	160/3
	750V	Α	16/8	25/8	32/8	3	3	3	3	3	160/4
DC22A	48V	Α	16/1	25/1	32/1	45/1	63/1	40/1	63/1	100/1	160/1
	110V	Α	16/2	25/2	32/2	45/2	63/2	40/2	63/2	100/2	160/1
	220V	Α	16/3	25/3	32/4	45/4	63/4	40/4	63/4	63/4	160/2
	440V	Α	16/6	25/8	3	3	3	3	3	3	160/3
	750V	Α	16/8	25/8	3	3	3	3	3	3	3
DC23A	48V	Α	16/1	25/1	32/1	45/1	63/1	40/1	63/1	100/1	160/1
	110V	Α	16/2	25/2	32/2	45/2	63/2	40/2	63/2	100/2	160/1
	220V	Α	16/4	25/4	32/4	45/4	63/4	40/4	63/4	63/4	160/2
	440V	Α	10/4	3	3	3	3	3	3	3	160/3
	750V	Α	16/8	3	3	3	3	3	3	3	3
Rated operational power											
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 s	ize	Α	25	32	40	63	80	100	100	100	200

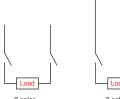


The ambient air temperature does not exceed +40°C and its average over a period of 24 hours does not exceed +35°C according to IEC 947.
 IEC 947-3, utilization category B, infrequent operation.
 Not available at time of printing, please consult factory.

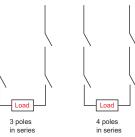
# **Technical data** OT16E3 – OT160E3 **IEC**

# **IEC**

Catalog number		3 pole	OT16E3	OT25E3	OT32E3	OT45E3	OT63E3	OT30E3	OT60E3	OT100E3	OT160E3
Rated voltage, Ue		V/V	415/690	415/690	415/690	415/690	415/690	415/690	415/690	415/690	500/690
Rated conditional short-c	ircuit current	kA	50	50	50	50	50	50	50	50	100/50
Max. allowed fuse size, ty	pe OFAA	Α	25	32	40/32	63/50	80	100	100	100	200
Max. allowed cut-off curre	ent, peak valu	e 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 makin	g capacity,										
prospective peak value, I	cm	kA	0.7	0.7	0.7	1.4	1.4	3.6	3.6	3.6	12
Rated short time withstar	nd current,										
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	2.5	4
AC breaking capacity											
pf = 0.35	≤415V	Α	128	160	184	240	304	320	504	640	1080
	≤500V	Α	128	160	184	240	256	320	480	480	1000
	≤690V	Α	80	88	96	160	160	320	320	320	640
DC breaking capacity/pol	les in series										
L/R = 15ms, 3 pole in	series										
	≤48V	Α	64/1	100/1	128/1	180/1	252/1	160/1	252/1	400/1	640/1
	≤110V	Α	64/2	100/2	128/2	180/2	252/2	160/2	252/2	400/2	640/1
	≤220V	Α	64/3	100/4	128/4	180/4	180/4	160/4	252/4	252/4	640/2
	≤440V	Α	1	①	1	①	1	1	1	1	640/3
	≤750V	Α	1	1	1	1	1	1	1	1	1
Capacitor ratings	≤400/415V	kVar	1	1	1)	1	1	1	1	1	1
Physical characteristics											
Electrical endurance at ra	ited operation	al									
current, pf = 0.65	operatio	n cycles	3000	3000	3000	3000	3000	3000	3000	3000	1000
Mechanical endurance	ор	erations	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	16,000
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 f	or										
rotary 3 pole switches		Nm	1	1	1	1.2	1.2	2	2	2	6
Suitable conductor cross	section Cu	mm2	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, Ui		VAC	690	690	690	690	690	690	690	690	690
Thermal current, Ith		Α	16	16	16	16	16	16	16	16	10
AC12/DC12 Ie, A Ue =	120V	Α	_	_	_	_	_	_	_	_	8/—
125V		Α	_	_	_	_	_	_	_	_	<b>—</b> /1.1
240V		Α	6 ②	6 ②	6 ②	6 ②	6 ②	6 ②	6 ②	6 ②	6/—
250V		Α	_	_	_	_	_	_	_	_	<b>—</b> /0.55
400V		Α	4 ②	4 ②	4 ②	4 ②	4 ②	4 ②	4 ②	4 ②	4/—
415V		Α	_	_	_	_	_	_	_	_	4/—
440V		Α	_	_	_	_	_	_	_	_	-/0.31
480V		Α	_	_	_	_	_	_	_	_	3/—
500V		А	_	_	_	_	_	_	_	_	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/—



<sup>2</sup> poles in series



<sup>4</sup> poles in series

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



# Selecting switches per NEC & IEC

#### Selecting switches per NEC

Article 430 of the US National Electric Code includes two methods for properly sizing disconnect switches:

#### 1. Single motor application

A properly sized disconnect switch for a single motor will:

- a) have an ampere rating greater than or equal to 115 percent of the rated motor full load current; or,
- b) have a HP rating greater than or equal to the rated motor HP (at applied voltage) if the disconnect switch under consideration is HP rated.

### 2. Combination load application

A properly sized disconnect switch for a combination load will be selected by adding all the simultaneous individual loads in the circuit under consideration.

Using motor nameplate information, load information, and tables from section 430 of the NEC, determine one equivalent full load current and one equivalent locked rotor current. The equivalent locked rotor current can be used with table 430-151 to determine an equivalent HP rating. Select a disconnect switch:

- a) greater than or equal to 115 percent of the equivalent full load current; and,
- b) greater than or equal to the equivalent HP rating.

#### Selecting switches per IEC

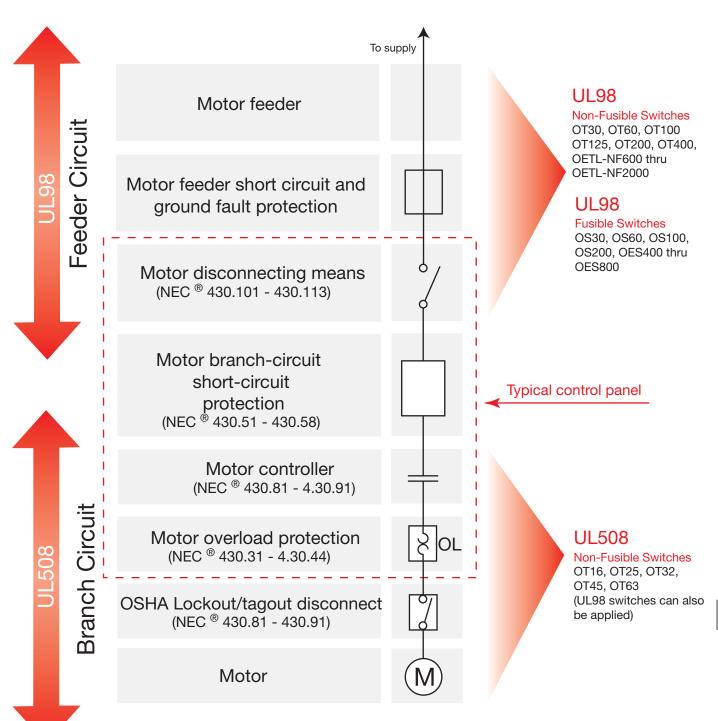
#### **Utilization categories**

Nature of current	Utilization	category	Typical applications
	Frequent operation	Infrequent operation	
	AC-20A	AC-20B	Connecting and disconnecting under no-load conditions
	AC-21A	AC-21B	Switching of resistive loads including moderate overloads (PF > 0.95)
Alternating current	AC-22A	AC-22B	Switching of mixed resistive and inductive loads, including moderate overloads (PF > 0.65)
	AC-23A	AC-23B	Switching of motor loads or other highly inductive loads (PF > 0.45 below 100A; PF > 0.35 above 100A)
	DC-20A	DC-20B	Connecting and disconnecting under no-load conditions
	DC-21A	DC-21B	Switching of resistive loads including moderate overloads (L/R < 1ms)
Direct current	DC-22A	DC-22B	Switching of mixed resistive and inductive loads, including moderate overloads e.g., shunt motors (L/R < 2.5ms)
	DC-23A	DC-23B	Switching of highly inductive loads e.g., series motors (L/R < 15ms)
Mechanical endurance	Number of operations	Number of operations	
100A	10,000	2000	
315A >315A	8000 2000	1600 400	

Category AC-23 includes occasional switching of individual motors. The switching of capacitors of tungsten filament lamps shall be subject to agreement between manufacturer and user.

# Use of UL98 & UL508 Disconnects According to *NEC* ® Article 430





Low Voltage Products & Systems 18.49

# Switches

## **Definitions**

AC - Alternating current — Current that reverses its direction of flow twice per cycle.

Ambient temperature — Temperature of the air surrounding the unit.

**Amp rating** — The basic unit of measurement for electric current (columbs / seconds).

Conventional thermal current I<sub>th</sub> — Value of the current the disconnect switch can withstand with poles in closed position, in free air for an eight hour duty, without the temperature rise of its various parts exceeding the limits specified by the standards.

**Cycle duration** — Total time of the on-load + off-load period.

**DC - Direct current** — Current that flows in only one direction.

**Electrical endurance** — Number of on-load operating cycles.

**IEC environmental protection type** — see page 18.52.

Full load amp current FLA — The current required by a motor to produce full-load torque at the motor's rated speed.

Inductive load — An electrical load characterized by having significant inrush (5 to 6 times FLA for typical design-B AC induction motors).

**kW** — Kilowatts (1000 watts)

**Lockout/Tagout** — Means of removing power from electrical equipment during inspection, service or repair.

Make / Break — ON / OFF

Mechanical endurance — Number of off-load operating cycles.

Poles in series — Means of connection poles using wires or bus bars to increase breaking capacity of load.

Power factor — The relationship between working power and total power consumed. Power factor measures how effectively electrical power is being used.

Rated insulation U<sub>i</sub> — Voltage value which designates the unit and to which dielectric tests, clearance and creepage distances 18 are referred.

Rated operating current I<sub>e</sub> —Current value stated by the manufacturer and taking into account the rated operating voltage U<sub>e</sub>, the rated frequency, the rated duty, the utilization category, the electrical contact life and the type of protective enclosure.

Rated operating voltage U<sub>e</sub> — Voltage value to which utilization characteristics of the disconnect switch are referred, i.e. phase-to-phase voltage in 3 phase circuits.

Rated short circuit making capacity Icm— The rated shortcircuit making capacity of a disconnect switch, a disconnector or a switch-disconnector is the value assigned to equipment at the rated operational voltage, frequency (if any) and specified power-factor for AC or time constant for DC. It is expressed as the maximum prospective peak current under prescribed conditions.

Rated short time withstand current I<sub>CW</sub> — The rated shorttime withstand current of a disconnect switch, a disconnector or a switch-disconnector is the value that the equipment can carry without damage, under the test conditions specified in the relevant product standard. The value of the rated shorttime withstand current shall be not less than twelve times the maximum rated operational current unless otherwise stated by manufacturer and the duration of the current shall be 1 s.

Resistive load — An electrical load characterized by not having any significant inrush current.

**Short circuit protection coordination** — Co-ordination types "1" and "2" are defined in IEC 947-4-1.

Type 1 coordination — There has to be no discharge of parts beyond the enclosure. Damage to the contactor and the overload is acceptable.

**Type 2 coordination** — No damage to the overload relay or other parts has occurred, except that welding of contactor or starter contacts is permitted, if they are easily separated.

**Time constant** — Ratio of inductance to the resistance: L/R = mH/Ohm = ms.

**Torque** — The force that produces rotation. It is commonly measured in pound-feet (lb-ft). Torque applies to such things as motor operations, handle rotations, wire tightening.

NEMA environmental protection type — see page 18.51.

Volt — The unit of electrical potential difference and electromotive force.

# **NEMA Environmental ratings**

#### Introduction

An enclosure is a surrounding case constructed to provide a degree of protection to personnel against accidental contact with the enclosed equipment and to provide a degree of protection to the enclosed equipment against specified environmental conditions.

A brief description of the more common types of enclosures used by the electrical industry relating to their environmental

capabilities follows. Refer to NEMA Standards Publication for more information regarding applications, features and design tests

Individual NEMA product Standards Publications or third party certification standards may contain additional requirements for product testing and performance.

#### Definitions pertaining to nonhazardous locations



Type 1

Enclosures are intended for indoor use primarily to provide a degree of protection against limited amounts of falling dirt. (NEMA Standard 7-15-1991.)



Type 3R

Enclosures are intended for outdoor use primarily to provide a degree of protection against rain, sleet and damage from external ice formation. (NEMA Standard 7-15-1991.)



Type 4

Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, hose-directed water and damage from external ice formation. (NEMA Standard 1-10-1979.)



Type 4X

Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, hose-directed water and damage from external ice formation. (NEMA Standard 1-10-1979)



Type 12

Enclosures are intended for indoor use primarily to provide a degree of protection against circulating dust, falling dirt, and dripping noncorrosive liquids. (NEMA Standard 7-15-1991.)



Type 13

Enclosures are intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil and noncorrosive coolant. (NEMA Standard 1-10-1979.)

# Definitions pertaining to hazardous locations



Type 7

Enclosures are intended for indoor use in locations classified as Class I, Groups, A, B, C, or D, as defined in the National Electrical Code. (NEMA Standard 7-15-1991.)



Type 9

Enclosures are intended for indoor use in locations classified as Class II, Groups E, F, or G, as defined in the National Electrical Code. (NEMA Standard 7-15-1991.)



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# **IEC Environmental ratings**

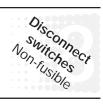
# **IP** ratings

indicate the degree of protection against dust, liquids and impacts. The IP degrees of protection are defined by the French standard NFC 20-010. To rate a device's degrees of protection, the letters IP are followed by up to three numbers. These numbers are defined as follows:

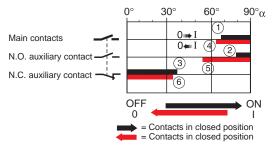
	<b>first number</b> protection against solid objects		second number protection against liquids	third number protection against mechanical impacts					
IF O	no protection	IP 4	no protection	IP 0	4	no protection			
1	protected against solid objects over 50mm (e.g. accidental touch by hands.)	1	protected against vertically falling rain or condensation	1	74	mpact 0,225 joule 150g falling from 15 cm			
2	protected against solid objects over 12 mm (e.g. fingers)	2	protected against direct sprays of water up to 15° from vertical	2	14	mpact 0,375 joule 250g falling from15 cm			
3	protected against solid objects over 2.5 mm (tools & wires)	3	protected against sprays to 60° from vertical	3	14	mpact 0,50 joule 250g falling from 20cm			
4	protected against solid objects over 1mm (small tools & small wires)	4	protected against water sprayed from all directions	5	<b>74</b>	mpact 2,00 joule 500g falling from 40 cm			
5	protected against dust (no harmful deposit)	5	protected against low pressure jets of water from all directions	7	4	mpact 6,00 joule 1.5kg falling from 40 cm			
6	totally protected against dust	6	protected from strong jets of water (e.g. for use on ship decks)	9	4	mpact 20,00 joule 5 kg falling from 40 cm			
		7	protected against the effects of immersion between 15cm and 1m						

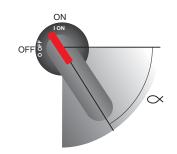
10

# **Auxiliary contact timing diagrams** OT16 – OT100



## Legend





#### Contacts closing

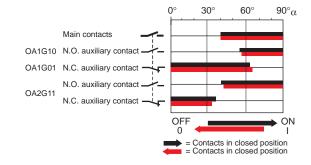
- Main contacts close
   N.O. auxiliary contacts close
- ② N.O. auxiliary contacts close ③ N.C. auxiliary contacts open

#### Contacts opening

- 4 Main contacts open
- ⑤ N.O. auxiliary contacts open
- N.C. auxiliary contacts close

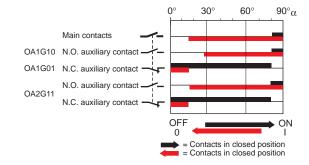
#### OT16, OT25, OT32

Catalog number	Auxiliary contact	Contact configuration
OT16, OT25, OT32	OA1G10 OA1G01 OA2G11	1 N.O. 1 N.C. 1 N.O. & 1 N.C.



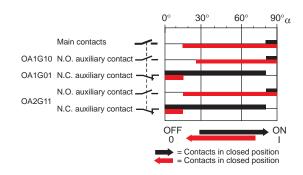
#### OT45, OT63

Catalog number	Auxiliary contact	Contact configuration				
OT45, OT63	OA1G10 OA1G01 OA2G11	1 N.O. 1 N.C. 1 N.O. & 1 N.C.				



#### OT30, OT60, OT100

Catalog number	Auxiliary contact	Contact configuration			
	OA1G10	1 N.O.			
OT30, OT60, OT100	OA1G01	1 N.C.			
	OA2G11	1 N.O. & 1 N.C.			



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