



Optocoupler : 5 to 60 V DC / 100 mA high switching output - 9 mm .354" spacing

#### Characteristics

Opto. characteristics	OBC 0100 - 24 V DC	OBC 0100 - 48 V DC	OBC 0100 - 110 V AC	OBC 0100 - 230 V AC
<b>INPUT</b>				
Input voltage	10.2 V to 28.8 V DC	40.8 V to 57.6 V DC	93.5 V AC to 152.4 V AC	230 V AC +15%, -20%
Frequency			50 / 60 Hz	50 Hz
Input current	7 mA to 12 V / 10 mA to 24 V	5 mA	8 mA	8 mA
Pull-in voltage at Is=100%	10.2 V DC	40.8 V DC	93.5 V AC	184 V AC
Switching time C / O	20 μs / 50 μs	20 μs / 50 μs	5 ms/5 ms	5 ms/5 ms
Operating frequency	7000 Hz	7000 Hz	50 Hz	50 Hz
Permissible leakage current				

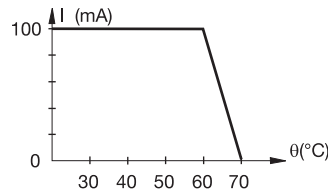
<b>OUTPUT</b>	
Output voltage	4.5 to 60 V DC
Output current min.	1 mA
Output current max.	100 mA
Output leakage current at Umax.	< 50 μA
Residual voltage at I max and U rated	1 V
typical	1.3 V
max.	
Frequency on inductive load	3000 V RMS
Isolation Input / Output	

<b>TEMPERATURE</b>	
Ambient temperature storage	- 40°C to + 80°C
operating	See derating curve

<b>Other characteristics</b>	
Body material	grey
Wire	Solid wire
size	Stranded wire
Rated wire size	2.5 mm <sup>2</sup> / 12 AWG
Wire stripping length	7 mm .276"
Recommended screwdriver	3.5 .137"
Protection	IP 20 NEMA 1
Recommended torque	0.4-0.6 Nm 3.5-5.3 lb.in

Approvals	
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.

#### Derating curve



OBC 0100

#### Order codes

Description	Type	Order P/N	Packaging Weight kg
Optocoupler module 100 mA/DC	OBC 0100-24VDC	1SNA 608 017 R0600	1 0.04
Optocoupler module 100 mA/DC	OBC 0100-48VDC	1SNA 608 021 R0200	1 0.04
Optocoupler module 100 mA/DC	OBC 0100-110VAC	1SNA 608 024 R0500	1 0.04
Optocoupler module 100 mA/DC	OBC 0100-230VAC	1SNA 608 027 R0000	1 0.04

#### Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Comb type jumper bar 10 poles	PC9 15 A	1SNA 210 160 R1200	10
Lengthwise marker	RLV	1SNA 103 849 R0300	100
Marking method	RC55	see marking	

**OBC 0100 - 24 V DC**

**OBC 0100 - 48 V DC**

**OBC 0100 - 110-230 V**

# Electronic Interfaces

## R900 optocoupler modules



DIN 3

Optocoupler : 5 to 57,6 V DC / 100 mA output - 9 mm .354" spacing

### Characteristics

Opto. characteristics	OBC 0100 - 110 V AC / 125 V DC		OBC 0100 - 125 V DC	OBC 0100 S - 125 V DC
<b>INPUT</b>				
Input voltage	88 to 126 V AC	100 to 143.8 V DC	100 to 143.8 V DC	106 to 150 V DC
Frequency	50 Hz			
Input current	3.5 mA	4.5 mA	4.5 mA	4.5 mA
Pull-in voltage at Is=100%		40 V DC	40 V DC	40 V DC
Switching time C / O	15 / 35 ms	15 / 45 ms	5 μs / 50 μs	5 μs / 50 μs
Operating frequency	10 Hz	10 Hz	9000 Hz	9000 Hz
Permissible leakage current				

### OUTPUT

Output voltage max.	5 to 57.6 V DC
Output current min.	1 mA
Output current max.	100 mA
Output leakage current at Umax.	< 50 μA
Residual voltage at I max and U rated	1 V
typical	
max.	1,3 V
Frequency on inductive load	
Isolation Input / Output	3000 V RMS

### TEMPERATURE

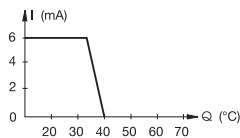
Ambient temperature	storage	- 40°C to + 80°C
	operating	see derating curves

### Other characteristics

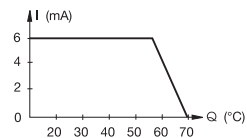
Body material	black	UL 94 V2
Wire	Solid wire	0.5-4 mm <sup>2</sup> / 20-12 AWG
size	Stranded wire	0.5-2.5 mm <sup>2</sup> / 20-12 AWG
Rated wire size		2.5 mm <sup>2</sup> / 12 AWG
Wire stripping length		7 mm .276"
Recommended screwdriver		3.5 .137"
Protection		IP 20 NEMA 1
Recommended torque		0.4-0.6 Nm 3.5-5.3 lb.in
Approvals		CE

Reference standards CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6

### Derating curves



OBC 0100



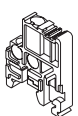
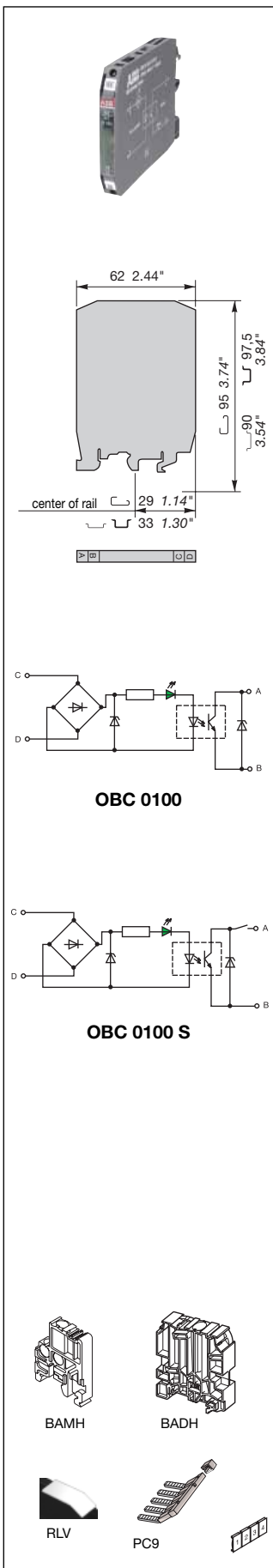
OBC 0100 S

### Order codes

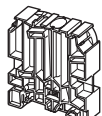
Description	Type	Order P/N	Packaging Weight kg
Optocoupler module 100 mA/DC	OBC 0100 110 VAC/125 VDC	1SNA 008 048 R1700	1
Optocoupler module 100 mA/DC	OBC 0100 125 V DC	1SNA 008 049 R1000	1
Optocoupler module with switch 100 mA/DC	OBC 0100 S 125 V DC	1SNA 008 004 R0400	1

### Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Lengthwise marker	RLV	1SNA 103 849 R0300	100
Comb-type jumper bar 10 poles	PC9 15 A	1SNA 210 160 R1200	10
Marker	RC55	see markers	



BAMH



BADH



RLV



PC9

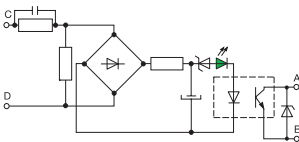
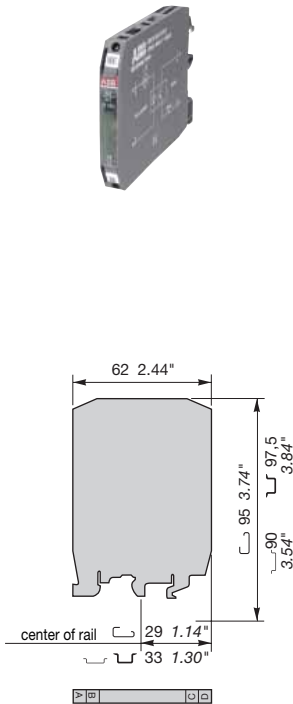




Optocoupler : 5 to 57,6 V DC / 100 mA output with leakage current protection - 9 mm .354" spacing

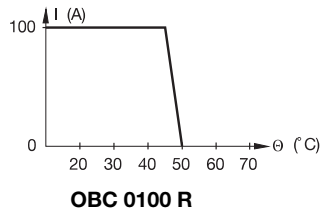
#### Characteristics

Opto. characteristics	OBC 0100 R		
	INPUT	93.5 V AC to 152.4 V AC 50 Hz	93.5 V AC to 127 V AC 60 Hz
Input voltage			
Frequency			
Input current	12 mA		15 mA
Pull-in voltage at Is=100%	93.5 V		195.5 V
Switching time C / O	10 / 25 ms		10 / 25 ms
Operating frequency	15 Hz		15 Hz
Permissible leakage current	5 mA		5 mA
<b>OUTPUT</b>			
Output voltage max.	4.5 to 57.6 V DC		
Output current min.	1 mA		
Output current max.	100 mA		
Output leakage current at Umax.	< 50 µA		
Residual voltage at I max and U rated	typical max. 1 V 1.3 V		
Frequency on inductive load Isolation Input / Output	3000 V RMS		
<b>TEMPERATURE</b>			
Ambient temperature	storage - 40°C to + 80°C operating see derating curve		
<b>Other characteristics</b>			
Body material	black UL 94 V2		
Wire	Solid wire 0.5-4 mm <sup>2</sup> / 20-12 AWG		
size	Stranded wire 0.5-2.5 mm <sup>2</sup> / 20-12 AWG		
Rated wire size	2.5 mm <sup>2</sup> / 12 AWG		
Wire stripping length	7 mm .276"		
Recommended screwdriver	3.5 .137"		
Protection	IP 20 NEMA 1		
Recommended torque	0.4-0.6 Nm 3.5-5.3 lb.in		
Approvals			
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6		



OBC 0100 R

#### Derating curve

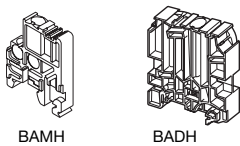


#### Order codes

Description	Type	Order P/N	Packaging Weight kg
Optocoupler mod. w. leakage current protection 100 mA/DC	OBC 0100 R 110 V AC	1SNA 008 076 R0300	1
Optocoupler mod. wi. leakage current protection 100 mA/DC	OBC 0100 R 230 V AC	1SNA 008 077 R0400	1

#### Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Lengthwise marker	RLV	1SNA 103 849 R0300	100
Comb-type jumper bar 10 poles	PC9 15 A	1SNA 210 160 R1200	10
Marker	RC55	see markers	



# Electronic Interfaces

## R900 optocoupler modules



DIN 3

Optocoupler : 5 to 60 V DC / 1 A high switching output - 9 mm .354" spacing

### Characteristics

Opto. characteristics	OBC 1000 - 5 V DC	OBC 1000 - 24 V DC	OBC 1000 - 48 V DC	OBC 1000 - 110 V AC	OBC 1000 - 230 V AC
<b>INPUT</b>					
Input voltage	4.5 to 5.5 V DC	10.2 V DC to 28.8 V DC	40.5 to 57.6 V DC	93.5 V AC to 152.4 V AC	195 to 264.5 V AC
Frequency				50 / 60 Hz	50 Hz
Input current	6.5 mA	6.5mA to 12V/9.5mA at 24V	4.5 mA	8 mA	7 mA
Pull-in voltage at Is=100%	4.5 V DC	10.2 V AC	40.8 V DC	93.5 V AC	184 V DC
Switching time C / O	20 µs / 50 µs	20 µs / 50 µs	20 µs / 50 µs	2 ms / 5 ms	1 ms / 5 ms
Operating frequency	7000 Hz	7000 Hz	7000 Hz	80 Hz	80 Hz
Permissible leakage current					

### OUTPUT

Output voltage	5 to 60 V DC
Output current min.	1 mA
Output current max.	1 A
Output leakage current at Umax.	< 50 µA
Residual voltage at I max and U rated	1 V
typical	
max.	1.3 V
Frequency on inductive load	
Isolation Input / Output	3000 V RMS

### TEMPERATURE

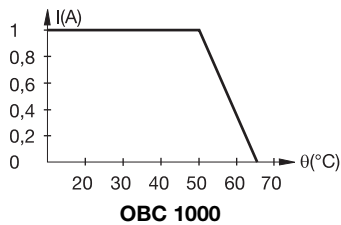
Ambient temperature	storage	- 40°C to + 80°C
	operating	See derating curve

### Other characteristics

Body material	grey	UL 94 V0
Wire	Solid wire	0.5-4 mm <sup>2</sup> / 20-12 AWG
size	Stranded wire	0.5-2.5 mm <sup>2</sup> / 20-12 AWG
Rated wire size		2.5 mm <sup>2</sup> / 12 AWG
Wire stripping length		7 mm .276"
Recommended screwdriver		3.5 .137"
Protection		IP 20 NEMA 1
Recommended torque		0.4-0.6 Nm 3.5-5.3 lb.in

Approvals	
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.

### Derating curve

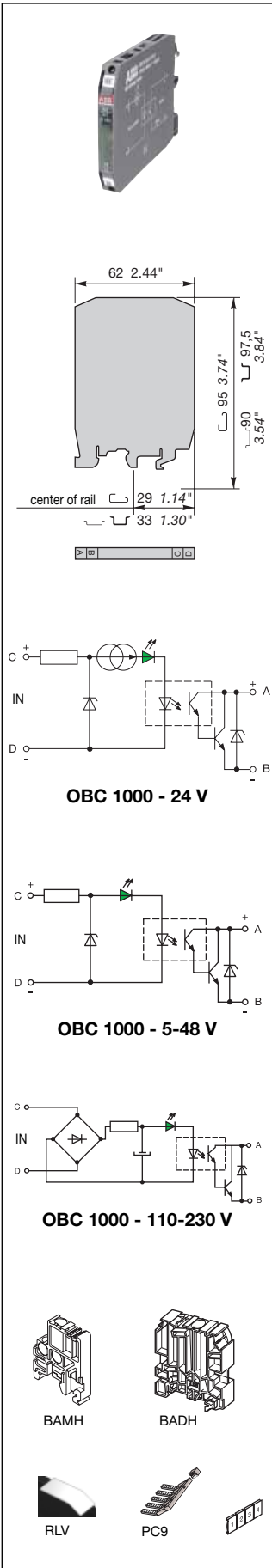


### Order codes

Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 1 A/DC	OBC 1000-5VDC	1SNA 608 014 R2200	1	0.04
Optocoupler module 1 A/DC	OBC 1000-24VDC	1SNA 608 018 R1700	1	0.04
Optocoupler module 1 A/DC	OBC 1000-48VDC	1SNA 608 022 R0300	1	0.04
Optocoupler module 1 A/DC	OBC 1000-110VAC	1SNA 608 025 R0600	1	0.04
Optocoupler module 1 A/DC	OBC 1000-230VAC	1SNA 608 028 R1100	1	0.04

### Accessories

High end stop	BAMH	9,1 mm	1SNA 114 836 R0000	50
	BAMH V0	9,1 mm	1SNA 194 836 R0100	50
	BADH	12 mm	1SNA 116 900 R2700	50
Comb type jumper bar 10 poles	PC9	15 A	1SNA 210 160 R1200	10
Lengthwise marker	RLV		1SNA 103 849 R0300	100
Marking method	RC55		see marking	

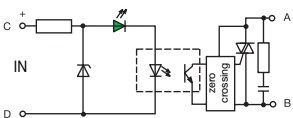
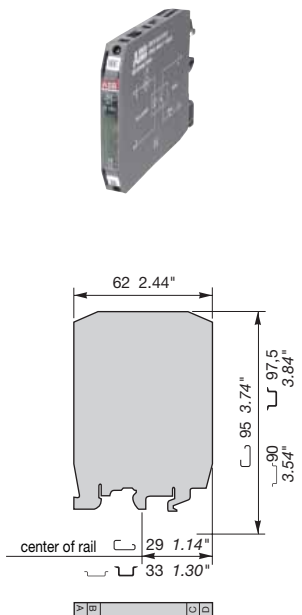




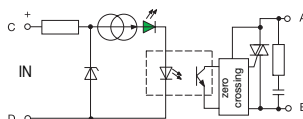
Optocoupler : 24 to 253 V AC / 1 A output - 9 mm .354" spacing

#### Characteristics

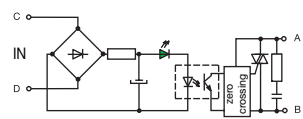
Opto. characteristics	OBA 1000 - 5 V DC	OBA 1000 - 24 V DC	OBA 1000 - 48 V DC	OBA 1000 - 110 V AC
<b>INPUT</b>				
Input voltage	4.5 to 5.5 V DC	10.2 V DC to 28.8 V DC	40.8 to 57.6 V DC	93.5 V AC to 152.4 V AC
Frequency				50 / 60 Hz
Input current	10 mA	8 mA to 12 mA	7 mA	7 mA to 10 mA
Pull-in voltage at Is=100%	4.5 V DC	10.2 V DC	40.8 V DC	93.5 V AC
Switching time C / O	10 ms / 10 ms	10 ms / 10 ms	10 ms / 10 ms	10 ms / 10 ms
Operating frequency	25 Hz	25 Hz	25 Hz	25 Hz
Permissible leakage current		1.5 mA		2.5 mA
<b>OUTPUT</b>				
Output voltage	24 to 253 V AC - 50 / 60 Hz			
Output current min.	25 mA			
Output current max.	1 A			
Output leakage current at Umax.	< 0.5 mA			
Residual voltage at I max and U rated	1 V			
typical	1 V			
max.	1.6 V			
Frequency on inductive load	3000 V RMS			
Isolation Input / Output	3000 V RMS			
<b>TEMPERATURE</b>				
Ambient temperature	- 40°C to + 80°C			
storage	See derating curves			
operating	See derating curves			
<b>Other characteristics</b>				
Body material	grey			
Wire	Solid wire			
size	0.5-4 mm <sup>2</sup> / 20-12 AWG			
Rated wire size	0.5-2.5 mm <sup>2</sup> / 20-12 AWG			
Wire stripping length	2.5 mm <sup>2</sup> / 12 AWG			
Recommended screwdriver	7 mm .276"			
Protection	3.5 .137"			
Recommended torque	IP 20 NEMA 1			
Approvals	0.4-0.6 Nm 3.5-5.3 lb.in			
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.			



OBA 1000 - 5 - 48 V DC

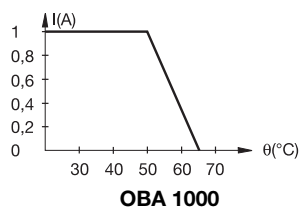


OBA 1000 - 24 V DC



OBA 1000 - 110 V AC

#### Derating curve

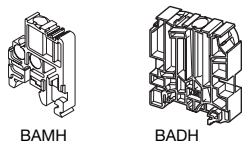


#### Order codes

Description	Type	Order P/N	Packaging	Weight
Optocoupler module 1 A/AC	OBA 1000-5VDC	1SNA 608 015 R0400	1	0.05
Optocoupler module 1 A/AC	OBA 1000-24VDC	1SNA 608 019 R1000	1	0.05
Optocoupler module 1 A/AC	OBA 1000-48VDC	1SNA 608 023 R0400	1	0.05
Optocoupler module 1 A/AC	OBA 1000-110VAC	1SNA 608 026 R0700	1	0.05

#### Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Comb type jumper bar 10 poles	PC9 15 A	1SNA 210 160 R1200	10
Lengthwise marker	RLV	1SNA 103 849 R0300	100
Marking method	RC55	see marking	



BAMH

BADH

RLV

PC9

# Electronic Interfaces



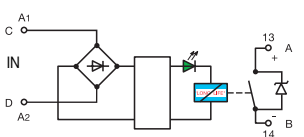
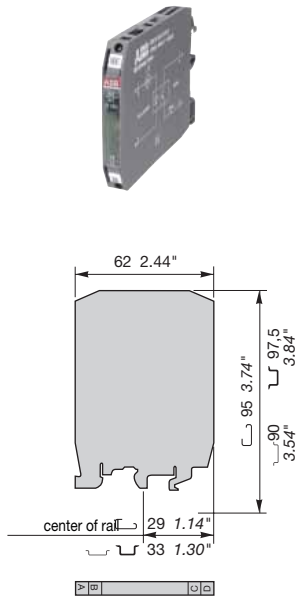
## R900 "Long Life" optocoupler modules

DIN 1-3

Optocoupler : 10 to 57.6 V DC / 5 A output - 9 mm .354" spacing  
 Optocoupler : 20 to 135 V AC / 5 A output - 9 mm .354" spacing

### Characteristics

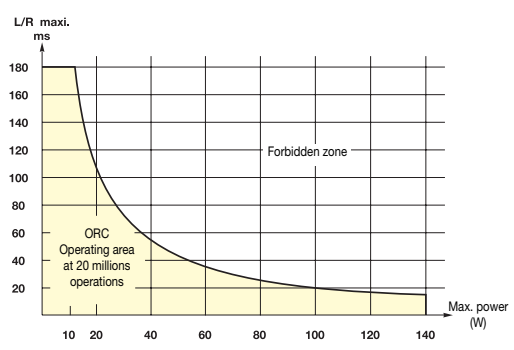
Opto. characteristics	ORC 111 24 V DC	ORA 111 24 V DC
<b>INPUT</b>		
Rated voltage $\pm 20\%$ on DC	24 V DC	24 V DC
Power	0.65 W	0.6 W
Rated current	26 mA	20 mA
Drop-out voltage at 20°C	4 V	5 V
Drop-in voltage at 20°C		
Permissible leakage current		
Status device	green LED	
<b>OUTPUT</b>		
Type	1 NO	1 NO
Voltage switching range min./max.	10 V DC / 57,6 V DC	20 V AC / 135 V AC
Current switching range min./max.	100 mA / 5 A	
Load switching range		
AC1 min. / max.	2 VA / 675 VA	
DC1 min. / max.	1 W / 280 W	
Number of on-load operations	20 x 10 <sup>6</sup> (see curves)	
Number of off-load operations	20 x 10 <sup>6</sup>	
Operating speed		
F	80 $\mu$ s	10 ms
O	20 ms	30 ms
Bounce		
Insulation input / output	3000 V RMS	
Resistance to shock input / output	5000 V RMS	
Inductive load max.	see curves	
Ambient temperature	-40°C to +80°C	
storage	see derating curves	
operating		
<b>Other characteristics</b>		
Body material	grey	
Wire	Solid wire	
size	UL 94 V0	
Stranded wire	0.5-4 mm <sup>2</sup> / 20-12 AWG	
Rated wire size	0.5-2.5 mm <sup>2</sup> / 20-12 AWG	
Wire stripping length	2.5 mm <sup>2</sup> / 12 AWG	
Recommended screwdriver	7 mm / .276"	
Protection	3.5 mm / .137"	
Recommended torque	IP 20 / NEMA 1	
Approvals	0.4-0.6 Nm / 3.5-5.3 lb.in	
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.	



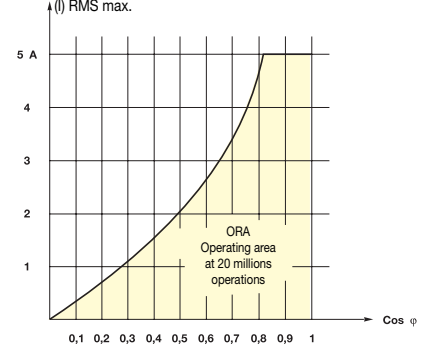
ORC 111

ORA 111

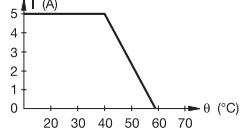
ORC type - Maximum switching power at 24V DC as per L/R



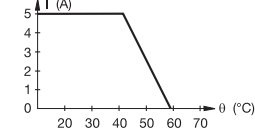
ORA type - Maximum switching current as per cos  $\phi$



Derating curves



ORC 111



ORA 111

### Order codes

Description	Type	Order P/N	Packaging Weight kg
Long Life optocoupler module 5 A/DC	ORC 111-24VDC	1SNA 608 068 R2100	1 0.03
Long Life optocoupler module 5 A/AC	ORA 111-24VDC	1SNA 608 069 R2200	1 0.04

### Accessories

High end section	BADH	1SNA 116 900 R2700	50
	BAMH	1SNA 114 836 R0000	50
	BAMH V0	1SNA 194 836 R0100	50
Comb-type jumper bar	PC9	1SNA 210 160 R1200	10
Lengthwise marker	RLV	1SNA 103 849 R0300	100
Marking method	RC55	see marking	

