

# Zertifikat

# Certificate



Zertifikat Nr. *Certificate No.*  
R 50139112

Blatt *Page*  
0006

Ihr Zeichen *Client Reference*  
G.W.

Unser Zeichen *Our Reference*  
02-CHENAND- 12004352

Ausstellungsdatum  
008 04.01.2011

*Date of Issue*  
(day/mo/yr)

**Genehmigungsinhaber *License Holder***

Tyco Electronics (Shenzhen)  
Co., Ltd.  
Tyco Electronics Technology  
Park, Shiyan Street, Baoan District  
Shenzhen, Guangdong 518108  
P.R. China

**Fertigungsstätte *Manufacturing Plant***

Tyco Electronics (Shenzhen)  
Co., Ltd.  
Tyco Electronics Technology  
Park, Shiyan Street, Baoan District  
Shenzhen, Guangdong 518108  
P.R. China

**Prüfzeichen *Test Mark***



Geprüft nach *Tested acc. to*  
EN 61810-1:2008  
IEC 61810-1:2008

**Zertifiziertes Produkt (Geräteidentifikation)**  
*Certified Product (Product Identification)*

**Lizenzentgelte - Einheit**  
*License Fee - Unit*

Relay (Electromechanical Elementary Relay)

as pages 0001-0005

Change

Test Requirement : see above

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.  
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

**TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg**  
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com  
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Zertifizierungsstelle



Dipl.-Ing. C. Nasca

Tyco Electronics (Shenzhen) Co.,  
Ltd.  
Mr. Gao Wei

Date : 04.01.2011  
Our ref. : CHENAND 02  
Your ref.: G.W.

Tyco Electronics Technology  
Park, Shiyan Street, Baoan District  
Shenzhen, Guangdong 518108  
P.R. China

**Ref : R TÜV-Mark Approval**

Type of Equipment : Electromechanical Elementary Relay  
Model Designation : See Certificate  
Certificate No. : R 50139112 0006  
Report No. : 12004352 008

Dear Mr. Gao Wei,

The above specified technical equipment has been tested and found to be in accordance with the relevant requirements.

Enclosed you will find the certificate of approval.

If cancellation of the certificate is submitted by November 15 in a given year, no fee will be charged for the following year.

We appreciate your kind support and would like to offer our assistance and continuous services in the future.

Please contact our office for approval of your new products.

With kind regards,

Certification Body



Dipl.-Ing. C. Nasca

Enclosure

# Zertifikat

# Certificate



Zertifikat Nr. *Certificate No.*  
R 50139112

Blatt *Page*  
0001

Ihr Zeichen *Client Reference*  
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Unser Zeichen *Our Reference*  
02-CHENAND- 12004352

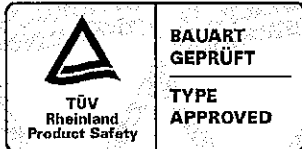
Ausstellungsdatum  
006 04.11.2008  
*Date of Issue*  
(day/mo/yr)

**Genehmigungsinhaber *License Holder***  
Tyco Electronics (Shenzhen)  
Co., Ltd.  
Tyco Electronics Technology  
Park, Shiyuan Street, Baoan District  
Shenzhen, Guangdong 518108  
P.R. China

**Fertigungsstätte *Manufacturing Plant***  
Tyco Electronics (Shenzhen)  
Co., Ltd.  
Tyco Electronics Technology  
Park, Shiyuan Street, Baoan District  
Shenzhen, Guangdong 518108  
P.R. China

## Prüfzeichen *Test Mark*

Geprüft nach *Tested acc. to*  
EN 61810-1:2004  
IEC 61810-1:2003



Zertifiziertes Produkt (*Geräteidentifikation*)  
*Certified Product (Product Identification)*

Lizenzentgelte - Einheit  
*License Fee - Unit*

Relay (Electromechanical Elementary Relay)

Type Designation : OZ-s-luvwxy, aaaaaa 10  
OZT-s-luvwxy, aaaaaa  
OZF-s-luvwxy, aaaaaa  
(OEG) (SCHRACK) (Potter & Brumfield)  
(P & B) (tyco) (Tyco Electronics)  
s = S, SS or SH  
u = 03, 05, 06, 09, 12, 18, 24, 36 or 48  
v = D or L w = Blank or M  
x = Blank or 1 y = P or F  
a = 0-9, a-z, A-Z or Blank.

Frequency if AC : 50/60Hz  
Electrical Endurance : 100,000 cycles at 1,800 cycles/h  
Mechanical Endurance : 10,000,000 cycles at 72,000 cycles/h

Continued on page 0002

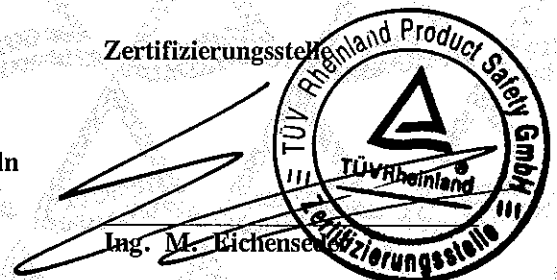
10

ANLAGE (Appendix): 1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.  
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.  
This certificate is based on our Testing and Certification Regulation. The product fulfills above mentioned requirements, the production is subject to surveillance.

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln  
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com  
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Zertifizierungsstelle



Ing. M. Eichenseher

# Zertifikat

# Certificate



Zertifikat Nr. *Certificate No.*  
R 50139112

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0002

Ihr Zeichen *Client Reference*  
G.W.

Unser Zeichen *Our Reference*  
02-CHENAND- 12004352 006 04.11.2008

Ausstellungsdatum *Date of Issue*  
(day/mo/yr)

**Genehmigungsinhaber *License Holder***

Tyco Electronics (Shenzhen)  
Co., Ltd.  
Tyco Electronics Technology  
Park, Shiyuan Street, Baoan District  
Shenzhen, Guangdong 518108  
P.R. China

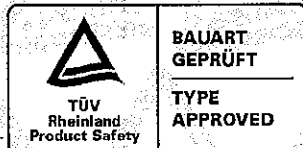
**Fertigungsstätte *Manufacturing Plant***

Tyco Electronics (Shenzhen)  
Co., Ltd.  
Tyco Electronics Technology  
Park, Shiyuan Street, Baoan District  
Shenzhen, Guangdong 518108  
P.R. China

**Prüfzeichen *Test Mark***

**Geprüft nach *Tested acc. to***

EN 61810-1:2004  
IEC 61810-1:2003



**Zertifiziertes Produkt (Geräteidentifikation)**  
***Certified Product (Product Identification)***

**Lizenzentgelte - Einheit**  
***License Fee - Unit***

Relay (Electromechanical Elementary Relay)

Continuation

Type Designation : OZ-s-luvwxy, aaaaaa  
OZT-s-luvwxy, aaaaaa  
Rated Contact Voltage : AC 240V DC 30V  
Rated Contact Current : 16/8A, cos (phi)=1 16/8A, L/R=0ms  
NO/NC NO/NC  
Ambient Temperature : -30°C to 60°C

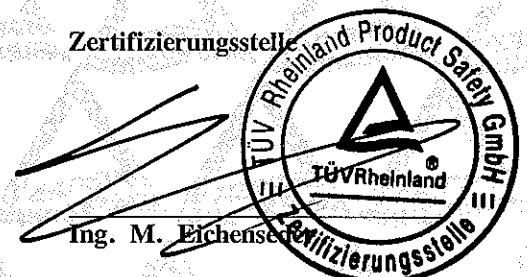
Type Designation : OZ-s-luvwxy, aaaaaa  
OZT-s-luvwxy, aaaaaa  
Rated Contact Voltage : AC 240/400V  
Rated Contact Current : 16/10A, cos (phi)=1  
NO, AgSnOInO, v = L 540mW type  
Ambient Temperature : -30°C to 85°C

Continued on page 0002

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.  
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.  
This certificate is based on our Testing and Certification Regulation. The product  
fulfills above mentioned requirements, the production is subject to surveillance.

**TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln**  
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com  
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Zertifizierungsstelle



Ing. M. Eichenseher

# Zertifikat

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Zertifikat Nr. *Certificate No.*  
R 50139112

Blatt *Page*  
0003

Ihr Zeichen *Client Reference*  
G.W.

Unser Zeichen *Our Reference*  
02-CHENAND- 12004352

Ausstellungsdatum  
006 04.11.2008

*Date of Issue*  
(day/month/year)

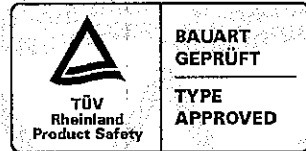
**Genehmigungsinhaber *License Holder***

Tyco Electronics (Shenzhen)  
Co., Ltd.  
Tyco Electronics Technology  
Park, Shiyuan Street, Baoan District  
Shenzhen, Guangdong 518108  
P.R. China

**Fertigungsstätte *Manufacturing Plant***

Tyco Electronics (Shenzhen)  
Co., Ltd.  
Tyco Electronics Technology  
Park, Shiyuan Street, Baoan District  
Shenzhen, Guangdong 518108  
P.R. China

**Prüfzeichen *Test Mark***



**Geprüft nach *Tested acc. to***

EN 61810-1:2004  
IEC 61810-1:2003

**Zertifiziertes Produkt (Geräteidentifikation)**  
*Certified Product (Product Identification)*

**Lizenzentgelte - Einheit**  
*License Fee - Unit*

Relay (Electromechanical Elementary Relay)

**Continuation**

Type Designation : OZF-s-luvwxy, aaaaaa  
Rated Contact Voltage : AC 240V DC 30V  
Rated Contact Current : 16A, cos(phi)=1 16A, L/R=0ms  
AgSnOInO  
Ambient Temperature : -30°C to 60°C (v = D 720mW type)  
-30°C to 90°C (v = L 540mW type)

Remark: The labelling requirements acc. to EU Directive 2001/95 have to be observed for distribution within the EEA.

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.  
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.  
This certificate is based on our Testing and Certification Regulation. The product fulfills above mentioned requirements, the production is subject to surveillance.

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Zertifizierungsstelle



Ing. M. Eichense

# Zertifikat

# Certificate



Zertifikat Nr. Certificate No.  
R 50139112

Blatt Page  
0005

Ihr Zeichen Client Reference  
G.W.

Unser Zeichen Our Reference  
02-CHENAND- 12004352

Ausstellungsdatum  
Date of Issue  
007 09.07.2009  
(day/mo/yr)

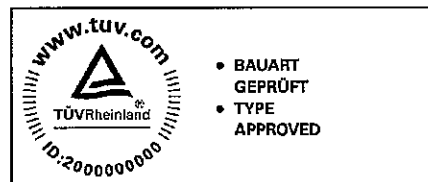
## Genehmigungsinhaber License Holder

Tyco Electronics (Shenzhen)  
Co., Ltd.  
Tyco Electronics Technology  
Park, Shiyan Street, Baoan District  
Shenzhen, Guangdong 518108  
P.R. China

## Fertigungsstätte Manufacturing Plant

Tyco Electronics (Shenzhen)  
Co., Ltd.  
Tyco Electronics Technology  
Park, Shiyan Street, Baoan District  
Shenzhen, Guangdong 518108  
P.R. China

## Prüfzeichen Test Mark



- BAUART  
GEPRÜFT
- TYPE  
APPROVED

## Geprüft nach Tested acc. to

EN 61810-1:2004  
IEC 61810-1:2003

Zertifiziertes Produkt (Geräteidentifikation)  
Certified Product (Product Identification)

Lizenzentgelte - Einheit  
License Fee - Unit

Relay (Electromechanical Elementary Relay)

as pages 0001-0003  
Change

Type Designation : OZ-s-luvwxyz, aaaaaa  
OZT-s-luvwxyz, aaaaaa  
OZF-s-luvwxyz, aaaaaa  
(OEG) (SCHRACK) (Potter & Brumfield)  
(P & B) (tyco) (Tyco Electronics)  
s = S, SS or SH  
u = 03, 05, 06, 09, 12, 18, 24, 36 or 48  
v = D or L  
w = Blank or M  
x = Blank or 1  
y = P or F  
z = Blank or F  
a = 0-9, a-z, A-Z or Blank.

ANLAGE (Appendix): 1.1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.  
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Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com  
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety



Dipl.-Ing. S. O. Steinke

Certificate No. R 50139112 0005 Our Reference 02-CHENAND-12004352 007 Appendix No. 1.1

**Constructional Data Form (CDF) for Electromechanical Relay**

Page 1 of 7

|                   |   |
|-------------------|---|
| License holder    | : <b>Tyco Electronics (Shenzhen) Co., Ltd.</b><br>Tyco Electronics Technology Park, Shiyan Street, Baoan District<br>Shenzhen, Guangdong 518108, P.R. China |
| Factory           | : <b>Tyco Electronics (Shenzhen) Co., Ltd.</b><br>Tyco Electronics Technology Park, Shiyan Street, Baoan District<br>Shenzhen, Guangdong 518108, P.R. China |
| Type of Appliance | : Electromechanical Elementary Relay  |
| Type Designation  | : OZ-s-1uvwxyz, aaaaaa;<br>OZT-s-1uvwxyz, aaaaaa;<br>OZF-s-1uvwxyz, aaaaaa series (see type nomenclature on page 6)   |

| Specification (contact-circuit) |   |                    |                   |                    |   |         |
|---------------------------------|---|--------------------|-------------------|--------------------|---|---------|
| Type                            | OZ series (OZT if OZ with 1 make contact) |                    |                   |                    |   |         |
| Contact material                | AgCdO(Chage over contact), AgSnOInO       |                    |                   |                    |   |         |
| Contact loading schematic       | 1 Chage over contact /1 make contact      |                    |                   |                    |   |         |
| Rated voltage                   | Make Contact (NO)                         | Break Contact (NC) | Make Contact (NO) | Break Contact (NC) | Make Contact (NO, AgSnOInO, v = L 540mW type) |         |
|                                 | AC 240V                                   |                    | DC 30V            |                    | AC 240V                                       | AC 400V |
| Rated current                   | 16A                                       | 8A                 | 16A               | 8A                 | 16A   | 10A     |
| cos φ                           | 1   | 1                  | ---               | ---                | 1   | 1       |
| L/R                             | ---                                       | ---                | 0 ms              | 0 ms               | ---   | ---     |
| frequency if a.c.               | 50/60Hz                                   |                    |                   |                    |   |         |
| Number of electrical cycles     | 100,000 cycles (1,800 cycles/hour)        |                    |                   |                    |   |         |
| Ambient temperature             | -30°C ~ +60°C                             |                    |                   |                    | -30°C ~ +85°C                                 |         |
| Duty factor                     | 50%                                       |                    |                   |                    |   |         |
| Number of mechanical cycles     | 10,000,000 cycles<br>(72,000 cycles/hour) |                    |                   |                    |   |         |

Certificate No. R 50139112 0005 Our Reference 02-CHENAND-12004352 007 Appendix No. 1.1
**Constructional Data Form (CDF) for Electromechanical Relay**

Page 2 of 7

| Specification (contact-circuit) |   |                   |
|---------------------------------|---|-------------------|
| Type                            | OZF series                                |                   |
| Contact material                | AgSnOInO (make contact)                   |                   |
| Contact loading schematic       | 1 make contact                            |                   |
| Rated voltage                   | Make Contact (NO)                         | Make Contact (NO) |
|                                 | AC 240V                                   | DC 30V            |
| Rated current                   | 16A                                       | 16A               |
| cos $\varphi$                   | 1   | ---               |
| L/R                             | ---                                       | 0 ms              |
| frequency if a.c.               | 50/60Hz                                   |                   |
| Number of electrical cycles     | 100,000 cycles (1,800 cycles/hour)        |                   |
| Ambient temperature             | -30°C ~ +60°C (v =D 720mW type)           |                   |
|                                 | -30°C ~ +90°C (v =L 540mW type)           |                   |
| Duty factor                     | 50%                                       |                   |
| Number of mechanical cycles     | 10,000,000 cycles<br>(72,000 cycles/hour) |                   |



**Constructional Data Form (CDF) for Electromechanical Relay**

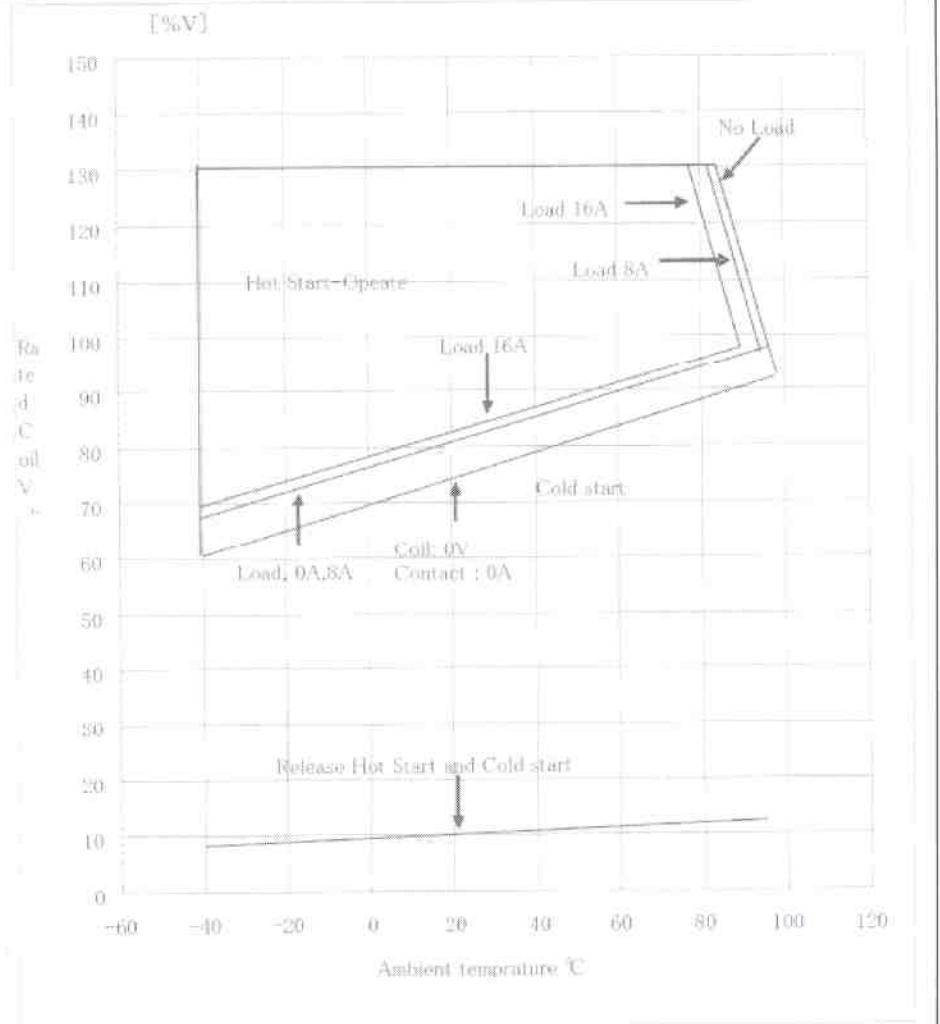
**Specification (contact-circuit)**

**Specification (coil-circuit)**

|                         |       |       |     |     |      |      |      |        |        |        |
|-------------------------|-------|-------|-----|-----|------|------|------|--------|--------|--------|
| Rated coil voltage (DC) |       | 3V    | 5V  | 6V  | 9V   | 12V  | 18V  | 24V    | 36V    | 48V    |
| Coil resistance at 20°C | 720mW | 12.5Ω | 36Ω | 50Ω | 115Ω | 200Ω | 450Ω | 820Ω   | 1,800Ω | 3,300Ω |
|                         | 540mW | 17Ω   | 47Ω | 68Ω | 155Ω | 270Ω | 600Ω | 1,100Ω | 2,400Ω | 4,400Ω |

Rated coil power (mW) 720mW(v = D type), 540mW(v = L type)

Operative range of coil voltage



Thermal insulation class F (155°C) --- 540mW coil, v = L type  
E (120°C) --- 720mW coil, x = D type

Certificate No. R 50139112 0005 Our Reference 02-CHENAND-12004352 007 Appendix No. 1.1
**Constructional Data Form (CDF) for Electromechanical Relay**

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**Type Nomenclature:**




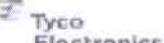






The model name OZ-s-1uvwxyz, aaaaaa, OZT-s-1uvwxyz, aaaaaa, OZF-s-1uvwxyz, aaaaaa read as following:

s, u, v, w, x, y, z and a are variables.

|     |   |   |   |   |   |   |   |   |    |            |
|-----|---|---|---|---|---|---|---|---|----|------------|
| OZ  |   |   |   |   |   |   |   |   |    |            |
| OZT | - | s | - | 1 | u | v | w | x | y  | z , aaaaaa |
| OZF |   |   |   |   |   |   |   |   |    |            |
| 1   | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |            |

1. **Basic Designation:**  
 OZ  
 OZT --- Additional model name when OZ type only with one make contact  
 OZF --- Have two QC terminals and only one make contact
2. **Sealing Construction:**  
 s = S, SS or SH  
 s = S --- Flux Proof type  
 s = SS --- Sealed case with ventilation hole type  
 s = SH --- Complete sealed type
3. **Number of Poles**  
 1 --- 1 pole
4. **Rated Coil voltage in Volt:**  
 u = 03, 05, 06, 09, 12, 18, 24, 36 or 48
5. **Coil Sensitivity:**  
 v = D or L  
 v = D --- General Sensitivity (720mW)  
 v = L --- High Sensitivity (540mW)
6. **Contact Configuration:**  
 w = Blank or M  
 w = Blank --- Change over contact  
 w = M --- Make Contact
7. **Contact Material:**  
 x = Blank or 1  
 x = Blank --- AgCdO(only for change over contact of OZ series)  
 x = 1 --- AgSnOInO
8. **Mounting Type(OZF only):**  
 y = P or F  
 y = P --- PC board mounting  
 y = F --- Flange case mounting
9. **Insulation System Designation::**  
 z = Blank or F  
 z = Blank --- standard  
 z = F --- Class F (155) (v = L only)
10. **Additional Numbers and/or letters:**  
 a = 0 - 9, a - z, A - Z, or blank, which does not represent electrical changes, only for specific customer requirements.

Trademarks

|  |                    |
|--|--------------------|
| OEG  | SCHRACK            |
| P & B  | Potter & Brumfield |
| <i>tyco / Electronics</i>  | Potter & Brumfield |
| <b>DEG</b>   | <b>SCHRACK</b>     |
| <b>P&amp;B</b>   | <b>tyco</b>        |
| <p>Tyco Electronics </p> <p>Tyco Electronics </p> <p> Tyco Electronics  Tyco Electronics  Tyco Electronics </p> <p> Tyco Electronics  Tyco Electronics</p> <p> Tyco Electronics  Tyco Electronics</p> |                    |