

Zertifikat

Certificate



TÜV

Zertifikat Nr. *Certificate No.*
R 02057213

Blatt *Page*
0037

Ihr Zeichen *Client Reference*
12018135/ML

Unser Zeichen *Our Reference*
ZTW2-KLL- 02066130 029

Ausstellungsdatum
23.05.2003

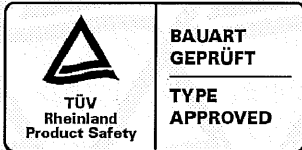
Date of Issue
(day/mo/yr)

Genehmigungsinhaber *License Holder*
Bourns Inc.
1200 Colombia Avenue
Riverside, CA 92507
USA

Fertigungsstätte *Manufacturing Plant*
Bourns Electronic (Taiwan) Ltd.
1 Kung 6th Road Industrial Zone II
Lin-Kou, Taipei Hsien 244
Taiwan, R.O.C.

Prüfzeichen *Test Mark*

Geprüft nach *Tested acc. to*
EN 60730-1:2000



Zertifiziertes Produkt (Geräteidentifikation)
Certified Product (Product Identification)

Lizenzentgelte - Einheit
License Fee - Unit

Kaltleiter (PTC Resettable Overcurrent Protectors)

Wie Blatt (As Page) 01

Ergänzung (Addition)

Bezeichnung : a) MF-USMD020
(Type Designation) b) MF-MSMF110

1
1

Nennspannung : a) DC 30V
(Rated Voltage) b) DC 6V

Haltestrom : a) 0.20A
(Hold Current) b) 1.10A

Verlustleistung : 0.8W
(Power Dissipation)



2

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.

Zertifizierungsstelle

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln

Tel.:(+49/221)8 06 - 13 71 Fax:(+49/221)8 06 - 39 35 e-mail: Althoff@de.tuv.com

Dipl.-Ing. M. Kröger



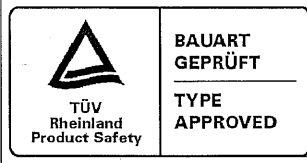
Zertifikat Nr. *Certificate No.*
R 02057213

Blatt *Page*
0040

Ihr Zeichen <i>Client Reference</i>	Unser Zeichen <i>Our Reference</i>	Ausstellungsdatum	<i>Date of Issue</i> (day/mo/yr)
12027504/PL	ZTW2-KLL- 02066130 032	13.09.2004	

Genehmigungsinhaber <i>License Holder</i> Bourns Inc. 1200 Colombia Avenue Riverside, CA 92507 USA	Fertigungsstätte <i>Manufacturing Plant</i> Bourns Electronic (Taiwan) Ltd. 1 Kung 6th Road Industrial Zone II Lin-Kou, Taipei Hsien 244 Taiwan, R.O.C.
---	--

Prüfzeichen *Test Mark* Geprüft nach *Tested acc. to*
EN 60730-1:2000



Zertifiziertes Produkt (Geräteidentifikation) <i>Certified Product (Product Identification)</i>	Lizenzentgelte - Einheit <i>License Fee - Unit</i>
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Kaltleiter (PTC Resettable Overcurrent Protectors)

Wie Blatt (As Page) 01

Ergänzung (Addition)

Bezeichnung (Type Designation)	Bemessungs- spannung (Rated Voltage)	Haltestrom (Hold Current)	Bemessungs- leistung (Rated Wattage)	
MF-MSMF010	DC 60V	0.10A	0.8W	2
MF-MSMF014	DC 60V	0.14A	0.8W	
MF-MSMF020	DC 30V	0.20A	0.8W	
MF-MSMF030	DC 30V	0.30A	0.8W	
MF-MSMF050	DC 15V	0.50A	0.8W	
MF-MSMF075	DC 13.2V	0.75A	0.8W	
MF-MSMF075/24	DC 24V	0.75A	0.8W	
MF-MSMF110	DC 06V	1.10A	0.8W	

Fortsetzung auf Blatt (Continued on Page) 41



2

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Zertifizierungsstelle

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln

Tel.:(+49/221)8 06 - 13 71 Fax:(+49/221)8 06 - 39 35 e-mail: Althoff@de.tuv.com

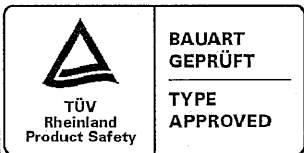
Dipl.-Ing. M. Kröger

Zertifikat Nr. *Certificate No.* Blatt *Page*
 R 02057213 0041

<i>Ihr Zeichen Client Reference</i>	<i>Unser Zeichen Our Reference</i>	<i>Ausstellungsdatum</i>	<i>Date of Issue</i> (day/mo/yr)
12027504/PL	ZTW1-KLL- 02066130 032	13.09.2004	

<i>Genehmigungsinhaber License Holder</i>	<i>Fertigungsstätte Manufacturing Plant</i>
Bourns Inc. 1200 Colombia Avenue Riverside, CA 92507 USA	Bourns Electronic (Taiwan) Ltd. 1 Kung 6th Road Industrial Zone II Lin-Kou, Taipei Hsien 244 Taiwan, R.O.C.

Prüfzeichen Test Mark *Geprüft nach Tested acc. to*
 EN 60730-1:2000



<i>Zertifiziertes Produkt (Geräteidentifikation)</i>	<i>Lizenzentgelte - Einheit</i>
<i>Certified Product (Product Identification)</i>	<i>License Fee - Unit</i>

Kaltleiter (PTC Resettable Overcurrent Protectors)

Wie Blatt (As Page) 01

Fortsetzung (Continuation)

Bezeichnung (Type Designation)	Bemessungs- spannung (Rated Voltage)	Haltestrom (Hold Current)	Bemessungs- leistung (Rated Wattage)
MF-MSMF110/16	DC 16V	1.10A	0.8W
MF-MSMF125	DC 06V	1.25A	0.8W
MF-MSMF125/12	DC 12V	1.25A	0.8W
MF-MSMF150	DC 06V	1.50A	0.8W
MF-MSMF150/12	DC 12V	1.50A	0.8W
MF-MSMF160	DC 08V	1.60A	0.8W
MF-MSMF200	DC 08V	2.00A	0.8W
MF-MSMF250/16	DC 16V	2.50A	1.2W
MF-MSMF260	DC 06V	2.60A	0.8W



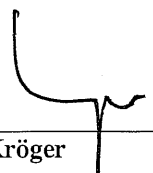
*Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
 Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.
 This certificate is based on our Testing and Certification Regulation. The product
 fulfills above-mentioned-requirements, the production is subject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

Zertifizierungsstelle

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln

Tel.:(+49/221)8 06 - 13 71 Fax:(+49/221)8 06 - 39 35 e-mail: Althofff@de.tuv.com

Dipl.-Ing. M. Kröger



Bourns Electronic (Taiwan) Ltd.
Mr. Poting Lan, Manager
Quality Assurance
1 Kung 6th Road Industrial Zone II
Lin-Kou, Taipei Hsien 244
Taiwan, R.O.C.

Date : 04.07.2007
Our ref. : KLL ZTW2
Your ref.: 12048179/PL

Ref : R TÜV-Mark Approval

Type of Equipment : PTC Resettable Overcurrent Protector
Model Designation : See Certificate
Certificate No. : R 50090528 0004
Report No. : 11007894 003

Dear Mr. Poting Lan,

Enclosed please find above certification documents.
Please forward these originals to the certificate holder.

If you contact our office, please quote our reference above.

We thank you for your cooperation.

The certificate holder is: Bourns Inc.

With kind regards,

Certification Body



Dipl.-Ing. B. Scheirer

Enclosure

TÜV RHEINLAND TAIWAN LTD.

7F, No. 2, Min Chuan E. Rd., Sec.3,
Taipei 104, Taiwan, R.O.C.
Tel. (02) 2516-6040
Fax (02) 2504-5040
<http://www.twn.tuv.com>

TAICHUNG BRANCH:
10F, No. 219, Min Chuan Rd.,
Taichung 403, Taiwan, R.O.C.
Tel. (04) 2301-9898
Fax (04) 2301-9696

KAOHSIUNG BRANCH:
33F-3, No. 80, Min Tzu 1st Rd.,
Kaohsiung 807, Taiwan, R.O.C.
Tel. (07) 380-1722
Fax (07) 380-1728

NANKANG BRANCH:
No. 99-23, Nan Kang Rd., Sec. 2,
Taipei 115, Taiwan, R.O.C.
Tel. (02) 2783-6650
Fax (02) 2783-7117

Bourns Inc.
Mr. Poting Lan, QA Sr. Manager
-
1200 Columbia Avenue
Riverside, CA 92507-2114
USA

Date : 04.07.2007
Our ref. : KLL ZTW2
Your ref.: 12048179/PL

Ref : R TÜV-Mark Approval

Type of Equipment : PTC Resettable Overcurrent Protector
Model Designation : See Certificate
Certificate No. : R 50090528 0004
Report No. : 11007894 003

Dear Mr. Poting Lan,

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. B. Scheirer

CC: Bourns Electronic (Taiwan) Ltd.

Enclosure

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Taipei 104, Taiwan, R.O.C.
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No. 99-23, Nan Kang Rd., Sec. 2,
Taipei 115, Taiwan, R.O.C.
Tel. (02) 2783-6650
Fax (02) 2783-7117

Zertifikat

Certificate



Zertifikat Nr. *Certificate No.*
R 50090528

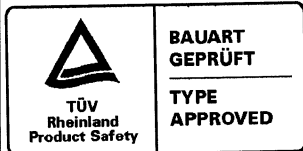
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Ihr Zeichen <i>Client Reference</i>	Unser Zeichen <i>Our Reference</i>	Ausstellungsdatum	<i>Date of Issue</i> (day/mo/yr)
12048179/PL	ZTW2-KLL- 11007894 003	04.07.2007	

Genehmigungsinhaber *License Holder*
Bourns Inc.
1200 Columbia Avenue
Riverside, CA 92507-2114
USA

Fertigungsstätte *Manufacturing Plant*
Bourns (Xiamen), Ltd.
4&5F Guang-Yao Building, Torch
Hi-Tech Industrial Dev. Zone
Xiamen 361006
P.R. China

Prüfzeichen *Test Mark*



Geprüft nach *Tested acc. to*

EN 60738-1:1999
EN 60738-1-1:1999
EN 60730-1:2000+A1+A12+A13+A14

Zertifiziertes Produkt (Geräteidentifikation)
Certified Product (Product Identification)

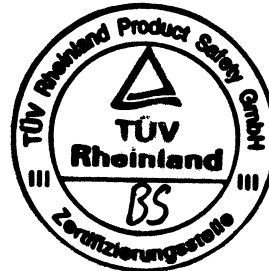
Lizenzentgelte - Einheit
License Fee - Unit

Kaltleiter (PTC Resettable Overcurrent Protector)

Wie Blatt (As Page) 01

Ergänzung (Addition)

Bezeichnung (Type Designation)	: a) MF-MSMF110/24X	1
	b) MF-MSMF125/24X	1
	c) MF-MSMF150/24D	1
	d) MF-MSMF150/24X	1
Bemessungsspannung (Rated Voltage)	: DC 24V	
Auslösestrom (Tripping Current)	: a) 2.20A	
	b) 2.50A	
	c) 3.00A	
	d) 3.00A	
Nicht-Auslösestrom (Non-Tripping Current)	: a) 1.10A	
	b) 1.25A	
	c) 1.50A	
	d) 1.50A	



4

ANLAGE (Appendix): 1.2

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.

Zertifizierungsstelle

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

Dipl.-Ing. B. Scheirer

Bourns Electronic (Taiwan) Ltd.
Mr. Poting Lan, Manager
Quality Assurance
1 Kung 6th Road Industrial Zone II
Lin-Kou, Taipei Hsien 244
Taiwan, R.O.C.

Date : 04.07.2007
Our ref. : KLL ZTW2
Your ref.: 12048179/PL

Ref : R TÜV-Mark Approval

Type of Equipment : PTC Resettable Overcurrent Protector
Model Designation : See Certificate
Certificate No. : R 50090528 0004
Report No. : 11007894 003

Dear Mr. Poting Lan,

Enclosed please find above certification documents.
Please forward these originals to the certificate holder.

If you contact our office, please quote our reference above.

We thank you for your cooperation.

The certificate holder is: Bourns Inc.

With kind regards,

Certification Body



Dipl.-Ing. B. Scheirer

Enclosure

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Tel. (07) 380-1722
Fax (07) 380-1728

NANKANG BRANCH:
No. 99-23, Nan Kang Rd., Sec. 2,
Taipei 115, Taiwan, R.O.C.
Tel. (02) 2783-6650
Fax (02) 2783-7117

Bourns Inc.
Mr. Poting Lan, QA Sr. Manager
-
1200 Columbia Avenue
Riverside, CA 92507-2114
USA

Date : 04.07.2007
Our ref. : KLL ZTW2
Your ref.: 12048179/PL

Ref : R TÜV-Mark Approval

Type of Equipment : PTC Resettable Overcurrent Protector
Model Designation : See Certificate
Certificate No. : R 50090528 0004
Report No. : 11007894 003

Dear Mr. Poting Lan,

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. B. Scheirer

CC: Bourns Electronic (Taiwan) Ltd.

Enclosure

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Zertifikat

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Zertifikat Nr. *Certificate No.*
R 50090528

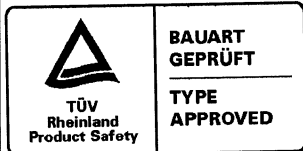
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Ihr Zeichen <i>Client Reference</i>	Unser Zeichen <i>Our Reference</i>	Ausstellungsdatum	<i>Date of Issue</i> (day/mo/yr)
12048179/PL	ZTW2-KLL- 11007894 003	04.07.2007	

Genehmigungsinhaber *License Holder*
Bourns Inc.
1200 Columbia Avenue
Riverside, CA 92507-2114
USA

Fertigungsstätte *Manufacturing Plant*
Bourns (Xiamen), Ltd.
4&5F Guang-Yao Building, Torch
Hi-Tech Industrial Dev. Zone
Xiamen 361006
P.R. China

Prüfzeichen *Test Mark*



Geprüft nach *Tested acc. to*

EN 60738-1:1999
EN 60738-1-1:1999
EN 60730-1:2000+A1+A12+A13+A14

Zertifiziertes Produkt (Geräteidentifikation)
Certified Product (Product Identification)

Lizenzentgelte - Einheit
License Fee - Unit

Kaltleiter (PTC Resettable Overcurrent Protector)

Wie Blatt (As Page) 01

Ergänzung (Addition)

Bezeichnung (Type Designation)	: a) MF-MSMF110/24X	1
	b) MF-MSMF125/24X	1
	c) MF-MSMF150/24D	1
	d) MF-MSMF150/24X	1
Bemessungsspannung (Rated Voltage)	: DC 24V	
Auslösestrom (Tripping Current)	: a) 2.20A	
	b) 2.50A	
	c) 3.00A	
	d) 3.00A	
Nicht-Auslösestrom (Non-Tripping Current)	: a) 1.10A	
	b) 1.25A	
	c) 1.50A	
	d) 1.50A	



4

ANLAGE (Appendix): 1.2

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.

Zertifizierungsstelle

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

Dipl.-Ing. B. Scheirer

Nidec Copal Electronics Corp.
Mr. Hatsuo Morishita, Engineering
Manager
Development & Design Division
Nishi-Shinjuku, Kimuraya Bldg.
7-5-25 Nishi-Shinjuku
Shinjuku-ku, Tokyo
160-0023 JAPAN

Date : 11.12.2007
Our ref. : KLL ZTW2
Your ref.: 12099847/HM
Customer no.: 393740

Ref : R TÜV-Mark Approval

Type of Equipment : PTC Resettable Overcurrent Protector
Model Designation : See Certificate
Certificate No. : R 50120380 0001
Report No. : 11007894 003

Dear Mr. Hatsuo Morishita,

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. B. Scheirer

Enclosure

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Zertifikat

Certificate



Zertifikat Nr. *Certificate No.*
R 50120380

Blatt *Page*
0001

Ihr Zeichen *Client Reference*
12099847/HM

Unser Zeichen *Our Reference*
ZTW2-KLL- 11007894 003

Ausstellungsdatum
11.12.2007

Date of Issue
(day/mo/yr)

Genehmigungsinhaber *License Holder*

Nidec Copal Electronics Corp.
Nishi-Shinjuku, Kimuraya Bldg.
7-5-25 Nishi-Shinjuku
Shinjuku-ku, Tokyo
160-0023 JAPAN

Fertigungsstätte *Manufacturing Plant*

ZTW2-KLL-11007894 001

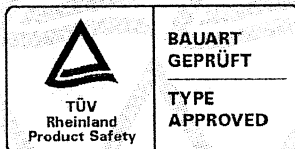
Prüfzeichen *Test Mark*

Geprüft nach *Tested acc. to*

EN 60738-1:1999

EN 60738-1-1:1999

EN 60730-1:2000+A1+A12+A13+A14+A15+A16



Zertifiziertes Produkt (Geräteidentifikation)
Certified Product (Product Identification)

Lizenzentgelte - Einheit
License Fee - Unit

Kaltleiter (PTC Resettable Overcurrent Protector)

Bezeichnung : PRCP-MSMF150/24X 5

(Type Designation)

Bemessungsspannung : DC 24

(Rated Voltage)

Auslösestrom : 3.00A

(Tripping Current)

Nicht-Auslösestrom : 1.50A

(Non-Tripping Current)

Umgebungstemperatur : -40°C bis (up to) 85°C

(Operating Temperature)

Klimakategorie : 40/125/10

(Climatic Category)

Hinweise : EN 60730-1 nur Anhang J geprüft.

(Remark : EN 60730-1 only annex J tested.)



5

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.

Zertifizierungsstelle

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Dipl.-Ing. B. Scheirer