

Zertifikat Certificate



Zertifikat Nr. Certificate No.
R 50298062

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0001

Ihr Zeichen Client Reference	Unser Zeichen Our Reference	Ausstellungsdatum	Date of Issue
TUV-0015N	ZJL-YTS- 50018367 001	01.12.2014	(day/mo/yr)

Genehmigungsinhaber License Holder
Sato Parts Co., Ltd.
3-3-3 Ebisu
Shibuya-ku, Tokyo
150-0013 JAPAN

Fertigungsstätte Manufacturing Plant
Niigata Sato Parts Co., Ltd.
2255-2 Torigoe
Nagaoka-shi, Niigata
940-2316 JAPAN

Prüfzeichen Test Mark

Geprüft nach Tested acc. to
EN 60947-7-1:2009



Zertifiziertes Produkt (Geräteidentifikation)
Certified Product (Product Identification)

Lizenzentgelte - Einheit
License Fee - Unit

Serial Terminal Block Terminal Block

Type Designation:	ML-1-xP	5
	x = 1 to 18	1
Number of Poles:	1 - 18	
Rate Insulation Voltage:	300V	
	(≤250V r.m.s. working voltage between different poles)	
Rated Thermal Current:	15A	
Overvoltage Category:	III	
Rated Withstand Impulse Voltage:	4kV	
Pollution Degree:	3	
Protection Degree:	IP00	
Rated Connecting Capacity:	2mm ² or AWG14	
	(see Appendix 1)	
Lower/Upper Limit Temperature:	-40°C/130°C	
Ambient Temperature Range at Rated Current:	-20°C - 85°C	

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ANLAGE (Appendix): 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.

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

Vilmos Sztaroveczki

Zertifikat Certificate



Zertifikat Nr. *Certificate No.*
R 50298062

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0002

Ihr Zeichen *Client Reference*
FACH-NGT

Unser Zeichen *Our Reference*
ZJL-MAA- 50018367 001

Ausstellungsdatum
30.04.2015

Date of Issue
(day/mo/yr)

Genehmigungsinhaber *License Holder*
Sato Parts Co., Ltd.
3-3-3 Ebisu
Shibuya-ku, Tokyo
150-0013 JAPAN

Fertigungsstätte *Manufacturing Plant*
Sato Parts Co., Ltd. Niigata Factory
2255-2 Torigoe
Nagaoka-shi, Niigata
940-2316 JAPAN

Prüfzeichen *Test Mark*

Geprüft nach *Tested acc. to*
EN 60947-7-1:2009



Zertifiziertes Produkt (Geräteidentifikation)
Certified Product (Product Identification)

Lizenzentgelte - Einheit
License Fee - Unit

Serial Terminal Block Terminal Block
Change

Name of Factory: Niigata Sato Parts Co., Ltd.
changed to: (see above)



Zertifizierungsstelle

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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Vilmos Sztaroveczki

Zertifikat *Certificate*



Zertifikat Nr. *Certificate No.*
R 50298062

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0003

Ihr Zeichen *Client Reference*
TUV-ADD-CH

Unser Zeichen *Our Reference*
ZJL-MAA- 50018367 001

Ausstellungsdatum
27.09.2016

Date of Issue
(day/month/year)

Genehmigungsinhaber *License Holder*
Sato Parts Co., Ltd.
3F Sanyu Bldg. 3-42-1, Hongo
Bunkyo-ku, Tokyo
113-0033 Japan

Fertigungsstätte *Manufacturing Plant*
Sato Parts Co., Ltd. Niigata Factory
2255-2 Torigoe
Nagaoka-shi, Niigata
940-2316 Japan

Prüfzeichen *Test Mark*



Geprüft nach *Tested acc. to*
EN 60947-7-1:2009

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

Lizenzentgelte - Einheit
License Fee - Unit

Serial Terminal Block Terminal Block

Change

Address of
License Holder: 3-3-3 Ebisu, Shibuya-ku, Tokyo
150-0013 JAPAN

changed to: (see above)



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Zertifizierungsstelle

Vilmos Sztaroveczki

Zertifikat Certificate



Zertifikat Nr. *Certificate No.*
R 50298062

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Ihr Zeichen *Client Reference*
ADD-CH

Unser Zeichen *Our Reference*
ZJL-MAA- 50018367 001

Ausstellungsdatum
27.02.2020

Date of Issue
(day/mo/yr)

Genehmigungsinhaber *License Holder*
Sato Parts Co., Ltd.
3-3-8, Sotokanda,
Chiyoda-ku, Tokyo
101-0021 Japan

Fertigungsstätte *Manufacturing Plant*
Sato Parts Co., Ltd. Niigata Factory
2255-2 Torigoe
Nagaoka-shi, Niigata
940-2316 Japan

Prüfzeichen *Test Mark*

Geprüft nach *Tested acc. to*
EN 60947-7-1:2009



Zertifiziertes Produkt (Geräteidentifikation)
Certified Product (Product Identification)

Lizenzentgelte - Einheit
License Fee - Unit

Serial Terminal Block Terminal Block

Change

Address of
License Holder: 3F Sanyu Bldg. 3-42-1, Hongo
Bunkyo-ku, Tokyo
113-0033 Japan

changed to: (see above)



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Zertifizierungsstelle

Dipl.-Ing. (FH) F. Becker

Constructional Data Form for Terminal Block

Page 1/3

Licenseholder : Sato Parts Co., Ltd.
 (full address) 3-3-3 Ebisu, Shibuya-ku, Tokyo 150-0013 Japan

 Factory : Niigata Sato Parts Co., Ltd.
 (full address) 2255-2 Torigoe Nagaoka-shi, Niigata 940-2316 Japan

 Type or Model Number : **ML-1 series**
 Kind of device: **Terminal Block**

General specifications	
Type designation	ML-1 series
Type of clamping units	<input checked="" type="checkbox"/> screw-type <input type="checkbox"/> screwless-type
Number of poles	1 - 18
Rated insulation voltage (Ui)	300Vr.m.s.(\leq 250Vr.m.s. working voltage between different poles)
Rated Thermal Current (Ith, if applicable)	15A
Short-time withstand current	252A (120A/mm ²)
Rated Frequency (if applicable)	50 - 60Hz
Upper limit temperature (if applicable)	130°C
Lower limit temperature (if applicable)	-40°C
Max. ambient temp. / range (at rated current)	-20°C - 85°C
Overvoltage category / Uimp	III / 4kVp
Pollution degree	3
IP code	IP00
Shock condition (if applicable)	N/A
Vibration condition (if applicable)	N/A

TÜV Rheinland

Ebisu, Tokyo


2014-11-25

(Place)

(Date)

2014-11-25

(Date)


 (Signature)

TAKESHI MIURA

(Stamp and Signature of Applicant)



Constructional Data Form for Terminal Block

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Terminal block specifications	
Terminal Assembly	Two clamping units / terminal block
Type of terminals	Screw terminals_IEC/EN60947-7-1
Terminal designation	1, 2, 3 ... 18
Clamping units	M3.5 screw with washer
Size of screws / Specified tightening torque	M3.5 / 0.8 N·m
Max. Number of conductors per crumping unit	1
Kind of conductor	Un-prepared conductor or Prepared conductor (conductor : Flexible or rigid)
Rated cross-section	Flexible : 2.0 mm ² or AWG14 Rigid : \varnothing 1.6 mm or AWG14
Rated Connecting Capacity	Un-prepared conductor: Flexible : 0.5 mm ² – 2.0 mm ² or AWG20 - AWG14 Rigid : \varnothing 0.65 mm - \varnothing 1.6 mm or AWG22 - AWG14 Prepared conductor (fitted with ring lug terminal) : Flexible : 0.3 mm ² – 2.0 mm ² or AWG22 - AWG14 Rigid : \varnothing 0.65 mm - \varnothing 1.6 mm or AWG22 - AWG14
Max. Stripping length	7.5 mm (for Un-prepared conductor)
Material of clamping units	Terminal plate : Copper Alloy (Cu 64%-68%) / nickel plated Screw assembly : Steel
Fixing method the support	M3 / 0.5 N·m

TÜV Rheinland

Ebisu, Tokyo

2014-11-25

(Place)

(Date)

2014-11-25

(Date)

(Signature)

TAKESHI MIURA

(Stamp and Signature of Applicant)



Constructional Data Form for Terminal Block

Insulation system		
Insulation system	<i>pole-pole:</i>	<input type="checkbox"/> N/A <input type="checkbox"/> functional <input checked="" type="checkbox"/> basic <input type="checkbox"/> reinforced
	<i>live parts – outside:</i>	<input type="checkbox"/> N/A <input type="checkbox"/> functional <input checked="" type="checkbox"/> basic <input type="checkbox"/> reinforced
	<i>live parts - mounting support:</i>	<input type="checkbox"/> N/A <input type="checkbox"/> functional <input checked="" type="checkbox"/> basic <input type="checkbox"/> reinforced
Test voltages	<i>pole-pole:</i>	4kVpk (impulse withstanding voltage_4.8kVpk at sea level), 2400Vr.m.s withstanding voltage
	<i>live parts – outside:</i>	N/A
	<i>live parts - mounting support:</i>	4kVpk (impulse withstanding voltage_4.8kVpk at sea level), 2400Vr.m.s withstanding voltage
Minimum creepage distances	<i>pole-pole:</i>	4.4 mm (250Vr.m.s. max.)
	<i>live parts – outside:</i>	-
	<i>live parts - mounting support:</i>	8.3 mm
	Note: Reference metal mounting panel 3mm thick, and the min. creepage distance measured between the fixed part of clamping units, because the ring terminals were protected by insulation tubing.	
Minimum clearances	<i>pole-pole:</i>	4.4 mm
	<i>live parts – outside:</i>	-
	<i>live parts - mounting support:</i>	8.3 mm
	Note: Reference metal mounting panel 3mm thick, and the min. creepage distance measured between the fixed part of clamping units, because the ring terminals were protected by insulation tubing.	

Plastic Materials					
Part	Material	Type designation Manufacturer	RTI	Flammability	Material group
Sectional Block	Phenolic	Grade: PM-8425J, SUMITOMO BAKELITE CO LTD (UL File No.E41429)	150°C	V-0(0.71mm)	III
Sectional Block for Mounting-A;-B	Phenolic	Grade: PM-8425J, SUMITOMO BAKELITE CO LTD (UL File No.E41429)	150°C	V-0(0.71mm)	III
Cover (Optional)	Polycarbonate	Grade: CARBOGLASS CFR110C, AGC POLYCARBONATE CO LTD (UL File No.E141248)	-	V-0 (0.13mm)	-

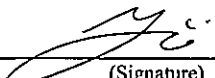

TYPE NOMENCLATURE:

Example : ML – 1 – x P

ML-1 – Basic construction (Model No.)

x – Number of Pole(s) : 1 to 18

Note : Dashes are optional.

TÜV Rheinland 2014-11-25 (Date)	 (Signature)	Ebisu, Tokyo _____ (Place)	2014-11-25 _____ (Date)
		TAKESHI MIURA _____ (Stamp and Signature of Applicant)	 (Date)