

**MASTER CONTRACT:** 168317

**REPORT:** 70076573

**PROJECT:** 70076573

**Edition 1:** April 29, 2016; Project 70076573 - Arnhem  
Prepared by M. Kloppenborg (D 218388500); Reviewed by J.R. Holtman

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## PRODUCTS

CLASS 6228 01- WIRE CONNECTING DEVICES - Terminal Assemblies

Terminal Strips with screw tightening terminals, for screw or snap-in mounting, for solid and stranded insulated copper conductors:

Catalogue number	Voltage [V]	Group	Current [A]	Wire-Range [AWG]	Torque [Nm]	Remarks
230	300	B	20	24-12	0.57	1 to 12 poles
230 DS	300	B	20	24-12	0.57	1 to 12 poles
230 K	300	B	20	24-12	0.57	1 to 12 poles
230 K DS	150	C	20			
	300	B	20	24-12	0.57	1 to 12 poles
	150	C	20			
	300	B	20	24-12	0.57	1 to 12 poles
500 ..	300	B	20	24-12	0.57	1 to 12 poles
500 .. DS	300	B	20	24-12	0.57	1 to 12 poles
500 II	300	B	20	24-12	0.57	1 to 12 poles
500 II DS	300	B	20	24-12	0.57	1 to 12 poles
500 K	300	C	20	24-12	0.57	1 to 12 poles
500 K DS	300	C	20	24-12	0.57	1 to 12 poles
500 SK II	600	B, C	20	24-12	0.57	1 to 12 poles
500 SK II MDS	600	B, C	20	24-12	0.57	1 to 12 poles
1000	300	B	50	24-8	0.79	1 to 12 poles
1000 DS	300	B	40	24-10	0.79	1 to 12 poles
1000 K	600	B to E	50	24-8	0.79	1 to 12 poles
1000 K DS	600	B to E	40	24-10	0.79	1 to 12 poles

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Catalogue number	Voltage [V]	Group	Current [A]	Wire-Range [AWG]	Torque [Nm]	Remarks
1500	300	B	55	18-8	0.79	1 to 12 poles
	150	C	55			
1500 DS	300	B	55	18-8	0.79	1 to 12 poles
	150	C	55			
2000	300	B	70	22-4	2.0	1 to 12 poles
	150	C	70			
2000 DS	300	B	70	22-4	2.0	1 to 12 poles
	150	C	70			
2000 K	600	B to E	70	26-4	2.0	1 to 12 poles
2000 K DS	600	B to E	70	26-4	2.0	1 to 12 poles

Notes:

1. Certified as a component for use only where the suitability of the final combination is determined in the end use.
2. Suffixes may be added to the Catalogue numbers, to denote color, pitch, number of poles and other variations which are not affecting the relevant properties.
3. The suitability of accessories like end-plates, end-stops, strain-relief plates, locking levers, etc. has to be determined in the final combination.
4. Some types are provided with optional wire protection 'DS' for stranded conductors.
5. The CSA Mark on the Terminal Strips may be omitted with reference to DQD 311, sections 3.3/3.4 and DQD 535.01, if they are applied to the smallest packaging unit.
6. Terminal blocks specified for Group Designation D have to be used only in or with industrial control equipment where the load on any single circuit of the terminal block does not exceed 15A at 51-150V, 10A at 151-300V, 5A at 301-600V or the max current rating, whichever is less.
7. Terminal blocks specified for Group Designation E have to be used with equipment of limited rating, as permitted by the applicable Canadian Electrical Code, Part II, Standard covering the end product in which the terminal block is installed.

CLASS 6228 01- WIRE CONNECTING DEVICES - Terminal Assemblies

CLASS 6228 81- WIRE CONNECTING DEVICES - Terminal Assemblies – Certified to US standards

Terminal Strips with screw tightening terminals at the input, for solid and stranded insulated copper conductors and spring force terminals at the output, for solid insulated copper conductors, for screw or snap-in mounting:

Catalogue number	Voltage [V]	Group	Current [A]	Wire range [AWG]	Torque [Nm]	Strip length [mm]	Remarks
900-07 ..	300	B	10	18-14	0.79	-	screw terminal
				20-16	-	8	spring force terminal; 2 entries
900-07 .. DS	300	B	10	18-14	0.79	-	screw terminal
				20-16	-	8	spring force terminal; 2 entries
900 Q ..	300	B	10	18-14	0.79	-	screw terminal
				20-16	-	8	spring force terminal; 4 entries
900 Q .. DS	300	B	10	18-14	0.79	-	screw terminal
				20-16	-	8	spring force terminal; 4 entries

Block Connectors with spring force terminals, for solid insulated copper conductors:

Catalogue number	Voltage [V]	Group	Current [A]	Wire-Range [AWG]	Strip length [mm]	Remarks
930 ..	300	B	10	20-16	8	1-12 poles; 2 entries per terminal
935 ..	300	B	10	20-16	8	5 poles; 2 entries per terminal

Terminal Strips with screw tightening terminals, with integrated fuseholder, for solid and stranded insulated copper conductors:

Catalogue number	Voltage [V]	Group	Current [A]	Wire-Range [AWG]	Torque [Nm]	Remarks
503 Si	300	B, C	10	22-12	0.79	1-5 poles; one with fuseholder 5 x 20
503 Si DS	300	B, C	10	22-12	0.79	1-5 poles; one with fuseholder 5 x 20
1003 Si	300	B, C	16	22-10	0.79	1-5 poles; one with fuseholder 6.3 x 25
1003 Si DS	300	B, C	16	22-10	0.79	1-5 poles; one with fuseholder 6.3 x 25

**Notes:**

1. Certified as a component for use only where the suitability of the final combination is determined in the end use.
2. Suffixes may be added to the Catalogue numbers, to denote color, pitch, number of poles and other variations which are not affecting the relevant properties.
3. The suitability of accessories like end-plates, end-stops, strain-relief plates, locking levers, etc. has to be determined in the final combination.
4. Some types are provided with optional wire protection 'DS' for stranded conductors.
5. Terminal blocks with fuseholders are not approved for interrupting current
6. The cCSAus Mark on the Terminal Strips may be omitted with reference to DQD 311, sections 3.3/3.4 and DQD 535.01, if they are applied to the smallest packaging unit.

**APPLICABLE REQUIREMENTS**

- |                                  |  |
|----------------------------------|--|
| CSA C22.2 No. 0-10               | - General requirements - Canadian Electrical Code, Part II     |
| CSA C22.2 No. 158-10             | - Terminal Blocks  |
| UL 1059, 4 <sup>th</sup> Edition | - Terminal Blocks (for 900, 930, 935, 503 and 1003 types only) |

## **MARKINGS**

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

(a) The following marking details are in or on the smallest packaging unit:

- Submitter's name or trademark;
- CSA Monogram\*;
- Complete catalogue number;
- Maximum voltage;
- Conductor range;
- Ampere rating;
- Tightening torque (if applicable);
- Strip length (if applicable);
- Solid (if applicable).

The CSA Mark on the Terminal Strips may be omitted with reference to DQD 311, sections 3.3/3.4 and DQD 535.01, if they are applied to the smallest packaging unit.

- \* Terminal Blocks which are also certified to the US Class are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

### **Nameplate adhesive label material approval information:**

Not Applicable

## **ALTERATIONS**

The markings are in accordance with the "MARKINGS" paragraph above.

## **FACTORY TESTS**

None required.

## **SPECIAL INSTRUCTIONS FOR FIELD SERVICES**

None required.

## **COMPONENT SPECIAL PICKUP**

None required.

**DESCRIPTION**

Notes:

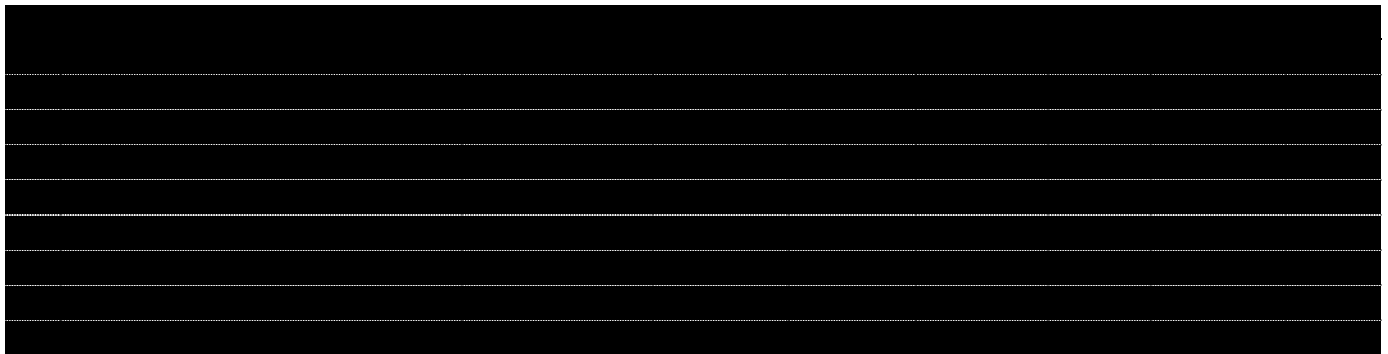
Component Substitution (reference only)

- a) Critical components (those identified by mfr name, cat no), which are NOT identified with either “INT” or “INT\*” are not eligible for substitution without evaluation and report updating.
- b) The term “INT” means a “Certified” and/or “Listed” (or a “Recognized” and/or “Accepted”) component may be replaced by one “Certified” and/or “Listed” by an organization (accredited by OSHA/SCC), for the same application; providing the applicable country identifiers are included and requirements in item “d” below are complied with.
- c) The term “INT\*” means a “Recognized” and/or “Accepted” component may be replaced by one “Recognized” and/or “Accepted” by an organization (accredited by OSHA/SCC), for the same application, providing the applicable country identifiers are included, the component is **also** CSA Certified, the requirements in item “d” below are complied with and any “conditions of suitability” for the component (as recorded in this descriptive report) are complied with.
- d) Components which have been substituted, must be of an equivalent rating, configuration (size, orientation, mounting) and the applicable minimum creepage and clearance distances are to be maintained from live parts to bonded metal parts and secondary parts.
- e) Substitution of a “Certified” and/or “Listed” component with a component that is “Recognized” or “Accepted” is not permitted without evaluation and report updating.

**GENERAL**

**Insulating materials**

The following materials are used for the body or other parts, as indicated in the construction details (id no.):



- (1) This is a generic RTI value derived from CSA C22.2 No. 0.17, table 6.
- (2) Glow-Wire tests executed for UL 1059 (material acceptance according to table 6.1, note c); see Test Results.
- (3) GWFI value on UL yellow card: 960/0.75.



<u>930</u>	<u>01</u>	<u>/12</u>	<u>B</u>	<u>xx</u>
a	b	c	d	e

- a Basic Cat. No. : 930 -  
935 same as 930 except for the body construction
- b Locking Features : 00 no release key - screwdriver release only  
(930 only) 01 one release key and one screwdriver release  
02 two release keys
- c Number of Poles : 1 to 12 -
- d Circuitry identification : blank not provided  
Marking B provided on top of the body
- e Optional suffixes : additional commercial suffixes may be provided

<u>1003 Si</u>	<u>/3</u>	<u>DS</u>	<u>xx</u>
a	b	c	d

- a Basic Cat. No. : 503 Si one pole is provided with a fuseholder  
1003 Si similar to 503 Si, but with larger dimensions
- b Number of Poles : 1 up to 5 -
- c Wire protection : blank not provided  
(optional) DS with wire protection (DrahtSchutz)
- d Optional suffixes : additional commercial suffixes may be provided

CONSTRUCTION

The different types are described in the next parts. For details refer to the Drawings and Photos in the attachments. Repeating information is intentionally left blank.

**Part A – Terminal Strips with screw tightening terminals**

Catalogue number	Photo page	Part	Drawing	Construction/Materials	Overall dimensions [mm]			Min. thickness
					Length	Width	Height	
230 230 DS 230 K 230 K DS	1	body	1	id 1 to 6	*	17.0	15.0	0.8
		body - K	2	id 1 to 6	*	17.0	19.2	0.8
		screw	3	steel	7.5	M3	-	-
		terminal	4 (6)	CuZn39Pb3 with Ni plating	10.5	4.1	5.4	-
		wire protection 'DS' (optional)	5 (6)	steel (4310)	10.3	2.0	1.8	-
500 .. 500 .. DS 500 K 500 K DS	2	body - basic	7	id 1 to 6	*	20.5	16.0	0.7
		body - RZ	8	id 1 to 6	*	20,5	16.5	0.7
		body - II	9	id 1 to 6	*	20.5	17.5	0.7
		body - K	7	id 1 to 6	*	20.5	19.0	0.7
		screw	10	steel (4.8) or brass	8.0	M3	-	-
		terminal	11 (13)	CuZn39Pb3 with Ni plating	14.0	4.7	6.0	-
		wire protection 'DS' (optional)	12 (13)	steel (4310)	13.8	2.5	2.0	0.2
500 SK II 500 SK II MDS	3	body	14	id 1 to 6	*	30.5	21.5	0.7
		screw	10					
		terminal	15 (17)	CuZn39Pb3 with Ni plating	14.0	4.7	6.0	-
		wire protection 'MDS' (optional)	16 (17)	steel (4310)	13.3	2.5	3.5	0.2
1000 1000 K	4	body	18	id 1 to 6	*	23.7	20.8	0.8
		screw	19	steel (4.8)	9.0	M3.5	-	-
		terminal	20 (22)	CuZn39Pb3 with Ni plating	15.0	5.5	7.2	0.8
		wire protection 'DS' (optional)	21 (22)	steel (4310)	14.8	2.8	2.3	0.25
		wire protection 'MDS' (optional)	23	steel (4310)	-	-	-	-
1500	5	body	24	id 1 to 6	*	25.4	25.0	1.2
1500 DS		screw	25	steel (4.8)	11.6	M4	-	-
		terminal	26	CuZn39Pb3 with Ni plating	17.0	6.5	8.7	-
		wire protection 'DS' (optional)	26	steel (4310)	16.8	3.5	2.4	0.2
2000	5, 6	body	27	id 1 to 6	*	30.2	25.3	1.2
2000 K		screw	28	steel (4.8)	12.5	M5	-	-
		terminal	29 (31)	CuZn38Pb2 with Ni plating	20	8.5	10.0	-
		wire protection 'DS' (optional)	30 (31)	CuSn6 or steel (4.8)	19.5	3.5	2.4	0.2

\* varies with the number of poles



**Part B – Terminal Strips with screw tightening and springforce terminals**

Catalogue number	Photo page	Part	Drawing	Construction/Materials	Overall dimensions [mm]			Min. thickness
					Length	Width	Height	
900-07	7	body	32, 33	id 6 to 9	*	21.0	19.0	0.8
		contact frame (terminal)	34	steel (4K50) with Sn plating	11	5.9	7.8	0.6
		spring	34	steel (4310)	6.2	4.4	-	0.25
		screw	35	steel (4.8)	9.0	M3	-	-
		wire protection 'DS' (optional)	36	steel (4310)	6.2	4.8	-	0.2
900 Q	8	body	37	id 6 to 9	*	21.2	17.5	0.9
		contact frame (terminal)	38	steel (4K50) with Sn plating	-	5.9	7.9	-
		spring	38	steel (4310)	4.3	4.4	6.2	0.3
		screw	35					
		wire protection 'DS' (optional)	36					

\* varies with the number of poles

**Part C – Block Connectors with springforce terminals**

Catalogue number	Photo page	Part	Drawing	Construction/Materials	Overall dimensions [mm]			Min. thickness
					Length	Width	Height	
930	9	body	39	id 5 to 7	*	24.0	15.0	1.5
		cover	40-42	with or without release key(s); id 5 to 7	-	-	-	-
		contact frame (terminal)	43	brass with Sn plating	16.0	5.8	9.9	-
		spring	43	steel (4310)	16.0	5.0	8.1	0.3
935	9	body	44	id 5 to 7	28.0	25.1	24.0	1.3
		cover	45	id 5 to 7	11.8	22.3	22.2	-
		contact frame (terminal)	43					
		spring	43					

\* varies with the number of poles

**Part D – Terminal Strips with screw tightening terminals, with integrated fuseholder**

Catalogue number	Photo page	Part	Drawing	Construction/Materials	Overall dimensions [mm]			Min. thickness
					Length	Width	Height	
503 Si 503 Si DS	10	body	46	id 5, 6, 8 or 9	*	27.0	17.7	0.7
		fuseholder	47	id 5, 6, 8 or 9	20.8	6.6	25.0	0.8
		screw	10					
		terminal	11 (13)					
		wire protection 'DS' (optional)	12 (13)					
		terminal (fused pole)	48	CuZn39Pb3 with Cu/Sn plating	5.5	4.5	5.9	-
		wire protection 'DS' (optional)	49	steel (4310)	6.7	4.0	3.7	0.2
		fuse contact (terminal)	50	steel (4310)	9.7	5.0	6.7	0.4
1003 Si 1003 Si DS	10	body	51	id 5, 6, 8 or 9	*	39.0	20.0	0.7
		fuseholder	52	id 5, 6, 8 or 9	32.8	8.6	35.0	0.9
		screw	19					
		terminal	20 (22)					
		wire protection 'DS' (optional)	21 (22)					
		terminal (fused pole)	53	CuZn39Pb3 with Cu/Sn plating	6.5	6.0	6.9	-
		wire protection 'DS' (optional)	54	steel (4310)	7.2	4.8	3.3	0.2
		fuse contact (terminal)	55	steel (4310)	12.0	6.0	7.4	0.4

\* varies with the number of poles

**TEST HISTORY**

Edition 1, Project 70076573

New report with certified types transferred from existing certifications and addition of Cat. No 900 Q. All types have been updated to CSA C22.2 No. 158-10 according to Wiring Devices Notice No. 77.

The table below shows the transferred types from the existing certifications:

Report No.*	Types
LR 28387-10	900-07
LR 28387-13	230, 500, 1000, 1000 K, 930
LR 28387-14	1500
LR 28387-15	2000
LR 28387-18	935
LR 28387-24	1000, 1000 K, 2000, 2000 K
1430890	230, 500, 1000
1620261	503 Si, 1003 Si

\*The Reports have become obsolete.

Test data from the obsolete reports was adopted and incorporated into Dekra Test Report 2183885.03-INC and reviewed for compliance to CSA C22.2 No. 158-10 and UL 1059, 4<sup>th</sup> Edition. Complementary UL test data was accepted for completion.

The below tests were accepted from UL file E63492 according to the requirements of CSA C22.2 No. 158-10 and UL 1059, 4<sup>th</sup> Edition:

Test	CSA 158-10	UL 1059	Catalogue no
Conditioning	6.12.3	30	900 Q LRZ /3, 930-01/12
Temperature	6.12.4	31	900 Q LRZ /3, 930-01/12
Dielectric v-w	6.12.5	32	900 Q LRZ /3, 930-01/12
Heat cycling	6.12.6	33	900 Q LRZ /3, 930-01/12

For test results see Att1, page 1 to 73.

Cat no 900-07 has been re-accepted on base of similarity to 900 Q (see accepted UL test data).

All results were reviewed by Mr. H.G.W. Willemsen and were found to be in compliance with the requirements of CSA C22.2 No. 158-10 and where applicable UL 1059, 4<sup>th</sup> Edition.

---End of Report---