

Supplier Specifications

6 way Inline Connector

1	Quoted standards and instructions	2
2	Description	2
3	Part number overview	2
4	Design	3
4.1	<i>General</i>	3
4.2	<i>Design male connector</i>	3
4.3	<i>Design female connector</i>	4
5	Functional characteristics	4
5.1	<i>Electrical characteristics</i>	4
5.2	<i>Mechanical characteristics</i>	4
5.3	<i>Environmental requirements</i>	5
5.4	<i>Environmental care</i>	5
6	Testing	6
7	Packing	7
8	Inscription of the plastic parts	7
9	Quality requirements	7

				Date	6.01.00	Supplier specifications – Renault 6-way Inline connector
				Name	Verhuist	
				Dpt.	A PD	
				CS		
				SIEMENS		Page
51		6.01.00	DV			V23540-A1100-X8-*-59
Rev.	change order	Date	Name			1/7

1 Quoted standards and instructions

- Renault Product Specifications 36-05-19/--E : Electrical connections and connectors
- DIN IEC 512 Part 2, 3, 7, 8 (DIN 41640 Part 38, 72) : Electromechanical components for electronic equipment.
- IEC 664-1 : Insulation coordination for equipment within low-voltage systems

2 Description

The connector '6-way Inline' is an unsealed ELO connector that can be used for airbag applications.

The Inline connector consists of four parts : pinhousing, secondary locking pinhousing, sockethousing and secondary locking sockethousing.

The pinhousing is used with 0.63 ELO-pins and the sockethousing with 0.63 ELO-terminals. In option the connector can be used with 1, 2 or 3 shunts.

3 Part number overview

Plastic parts	Part number
Pinhousing (drawing)	V23540-M5306-Y40..Y59-*-5827
Pinhousing (part ordered)	V23540-M5306-Y40..Y59
Sockethousing (drawing)	V23540-M5306-Y60..Y79-*-5827
Sockethousing (part ordered)	V23540-M5306-Y60..Y79

				Date	6.01.00	Supplier specifications – Renault 6-way Inline connector	
				Name	Verhulst		
				Dpt.	A PD		
				CS			
				SIEMENS			
51		6.01.00	DV	V23540-A1100-X8-*-59			Page
Rev.	change order	Date	Name				2/7

Matching terminals	Part number	Diameter
ELO-pins sideway Au	V23540-R5300-Y60	0.35/0.5
ELO-terminals sideway Au	V23540-R5300-Y50	0.35/0.5
ELO-pins sideway Sn	V23540-M5300-Y61	0.35/0.5
ELO-terminals sideway Sn	V23540-R5300-Y55	0.35/0.5

4 Design

4.1 General

- 6-way, 1 row connector with 0.63 ELO-terminals.
- Pitch : 2.54 mm / 5.86 mm
Terminalsurface : Au or Sn (Sn only without shunts).
- Material
 - plastic part: see customer drawings
 - ELO-terminals: see dimension drawing V23540-M*-Y*
- Number of possible codingkeys : 16
- Locking Class : class 1, "one movement, one hand" locking, according "Renault product specifications 36-05-019/--E"

4.2 Design male connector

- Dimensions : see dimension drawings V23540-M5306-Y40..Y59-*-5827 (Pinhousing with secondary locking)
- Male connector made up of:
 - pinhousing (16 key-options)
 - secondary locking (second terminal-locking)

				Date	6.01.00	Supplier specifications – Renault 6-way Inline connector
				Name	Verhulst	
				Dpt.	A PD	
				CS		
				SIEMENS		
51		6.01.00	DV	V23540-A1100-X8-*-59		Page
Rev.	change order	Date	Name			3/7

4.3 Design female connector

- Dimensions : see dimension drawings V23540-M5306-Y60..Y79-* -5827 (Sockethousing with secondary locking)
- Female connector made up of:
 - sockethousing
 - secondary locking (16-key options and terminal-locking)

5 Functional characteristics

5.1 Electrical characteristics

Design for 12V : Creepage range : Acc. to IEC 664-1 / degree of pollution: 2 : Material group III(f.i. PBT):minimal creepage range (for 50V):	1.2mm
Air leakage distance	> 0.8 mm
Rd (contact resistance) Initial value	≤ 10 mΩ
Risol (isolation resistance)	> 100MΩ with 500V, t=60s.

5.2 Mechanical characteristics

Push out force Elo terminal, with a speed of 25 mm/min.	> 25N
Frequency of insertion Sn terminals	20 contact cycles
Frequency of insertion Au terminals	100 contact cycles
Mating force of the female connector on the male connector	< 60N
Retention force female/male connector without unlocking	> 120N

				Date	6.01.00	Supplier specifications – Renault 6-way Inline connector	
				Name	Verhulst		
				Dpt.	A PD		
				CS			
				SIEMENS			
51		6.01.00	DV	V23540-A1100-X8-* -59			Page
Rev.	change order	Date	Name				4/7

Unmating force with unlocking	< 60N
Mating force in a wrong case	> 150N
Contact overlap	≥ 2mm
Mating force terminals (Sn Au)	< 15N
Insertion of contacts – correct insertion	< 5N
Insertion of contacts – incorrect angle of insertion	> 25N
Primary locking	≥ 40N
Primary locking + Secondary locking	≥ 70N
Secondary locking from preset to fully insertion (with correctly positioned contact)	< 20N
Secondary locking from preset to fully insertion (with badly positioned contact)	> 60N

5.3 Environmental requirements

- Operating temperature : temp.class 1 : –40 up to 85°C.
- Sealing : class 0 : no sealing.
- Inflammability : HB (pinhousing and sockethousing)
- Dynamic load : vibration class 1.

5.4 Environmental care

Environmental effects are evaluated and taken into account in the earliest possible stage of product and process planning.

				Date	6.01.00	Supplier specifications – Renault 6-way Inline connector
				Name	Verhulst	
				Dpt.	A PD	
				CS		
				SIEMENS		
51		6.01.00	DV	V23540-A1100-X8-*59		Page
Rev.	change order	Date	Name			5/7

Our products are subject to an environmental care test according to the Siemens standard 36350.

6 Testing

- (1) Test will be performed according AK (Arbeitskreis) revision 04/96 PG12, which uses the standard IEC512 T.3, being conform to NFC 93-400.
- (2) Test will be performed according AK (Arbeitskreis) revision 04/96 PG14, which uses the standard IEC512 T.3, being conform to NFC 93-400.

Tests according Renault specifications :

Para-graph	Description	new	Remark
5.5.3.2	Insertion of contacts	YES	
5.5.3.3	contact retention	YES	
5.5.3.4	Contact extraction	YES	
5.5.4.1	Locating device	YES	
5.5.4.4	Inter-casing clipping locking	YES	
6.2.1	Contact resistance - Millivolt level method	YES	
6.2.2	Specific test current method	YES	
6.2.4	Resistance to fretting corrosion	NO	
6.2.5	Temperature rise curve	NO	(1)
6.2.6	Derating curve	NO	(1)
6.3	Current limit values with time	NO	(2)
6.4	Atmospheric corrosion test	YES	
6.5	Short circuit test	YES	
6.6	Resistance to vibrations	YES	
6.7	Insulation resistance	YES	
6.8	Voltage test	YES	
6.9	Sealing	NO	
6.10	Current cycles at high temperature	YES	
6.11	Heat/Humidity cycles	YES	

				Date	6.01.00	Supplier specifications – Renault 6-way Inline connector	
				Name	Verhulst		
				Dpt.	A PD		
				CS			
				SIEMENS			
51		6.01.00	DV	V23540-A1100-X8-*-59		Page	
Rev.	change order	Date	Name				
							6/7

6.12	Therminal shocks	YES	
6.13	Resistance to fluids	NO	
6.14	Climatic endurance	NO	
6.15	Resistance to manoeuvres	YES	
6.16	Shock test	YES	
6.17	Rubbing	NO	
6.18	Crimped connection validation	NO	
6.19	Combustibility	NO	

All tests were carried out with V23540-R5300-Y50 ELO-terminals and V23540-R5300-Y60 ELO-pins.

7 Packing

Plastic parts	Type
Sockethousing	Cardboard and plastic bags
Pinhousing	Cardboard and plastic bags

8 Inscription of the plastic parts

Characteristics of the pin header and socket housing : see dimensions drawing.

9 Quality requirements

The quality planning is carried out in accordance with QS 9000 VDA 6.

				Date	6.01.00	Supplier specifications – Renault 6-way Inline connector
				Name	Verhulst	
				Dpt.	A PD	
				CS		
51		6.01.00	DV	SIEMENS		V23540-A1100-X8-*59
Rev.	change order	Date	Name			