

*Electrical interface document for saloon*

**AMSTERDAM**

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Release History



# AMSTERDAM

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	name	Department	Date	Signature
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Checked by				
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Released by				

## Revision Table

Revision	Date	Revised section,
02	2010-05-21	Add hardwire signal "Authorization ventilation" interface "T02/52"
03	2010-06-01	Change weidmuller to Harting
04	2010-06-03	Cancel the terminal for "Authorization ventilation"
05	2010-06-17	Change some connectors according customer's requirement
06	2010-06-25	Change H+S cable to Nexans cable
07	2010-07-29	Change -CN1,-CN2,-CN4 and I/O
08	2011-02-15	Delete pin B2 in connector -CN1
09	2011-06-27	Use the "O" type contact required by ALSTOM

## Distribution List

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## 1. Interface –CN1 (Harting plug 400V-3-50Hz Power supply saloon)

-CN1						minimal
Pin	to device		No. wire control panel	No. wire unit	nominal current [A]	cross-section [mm <sup>2</sup> ]
A1	Power supply saloon	ROCKCLASSIC Module		101	43.3	16.0
A2	Power supply saloon			102	43.3	16.0
B1	Power supply saloon			103	43.3	16.0
B2	Reserve					
4		3	Number of pins with 1 reserve			

The colour of cable inside of the VAC unit is black, wires are white or black, protective groundings are green-yellow

Configuration of connection (ALSTOM, SFRT): piece page (Harting Rockstar)

ALSTOM: car side

SFRT: unit side

Plug: ROCKCLASSIC

Frame for 3 modules: 09 14 010 0303 1 06.11

Hood(top entry): 1xM25 19 30 010 0436 1 31.43

Module: Female 09 14 002 2741 2 06.19

Fill stuff: 09 14 000 9950 1

Socket: ROCKCLASSIC

Frame for 3 modules: 09 14 010 0313 1 06.11

Housing: 09 30 010 0302 1 31.43

Module : Male 09 14 002 2641 2 06.19

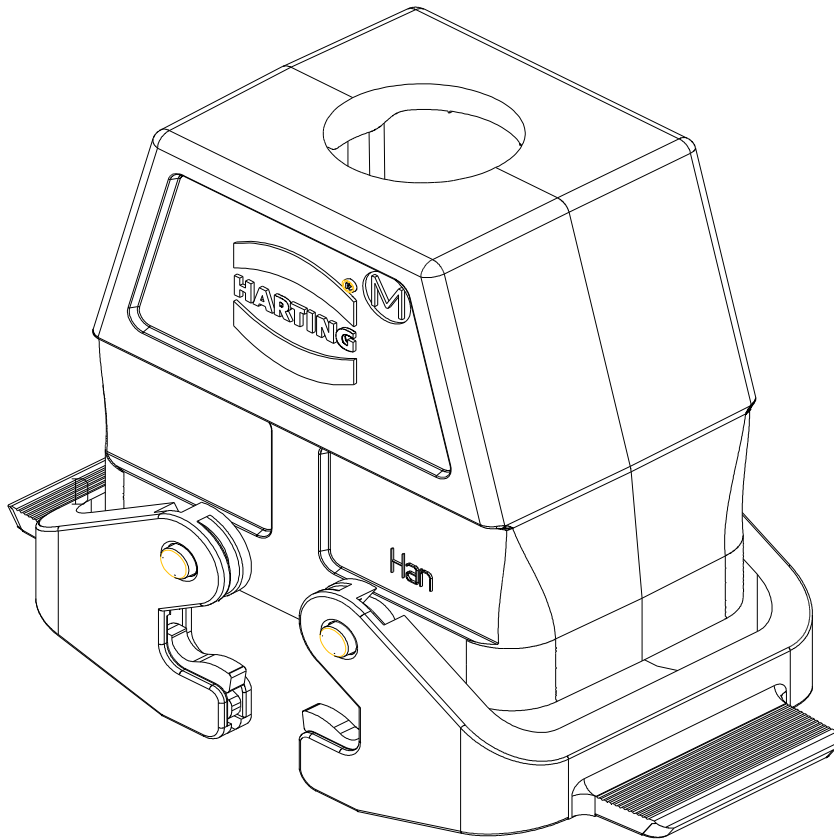
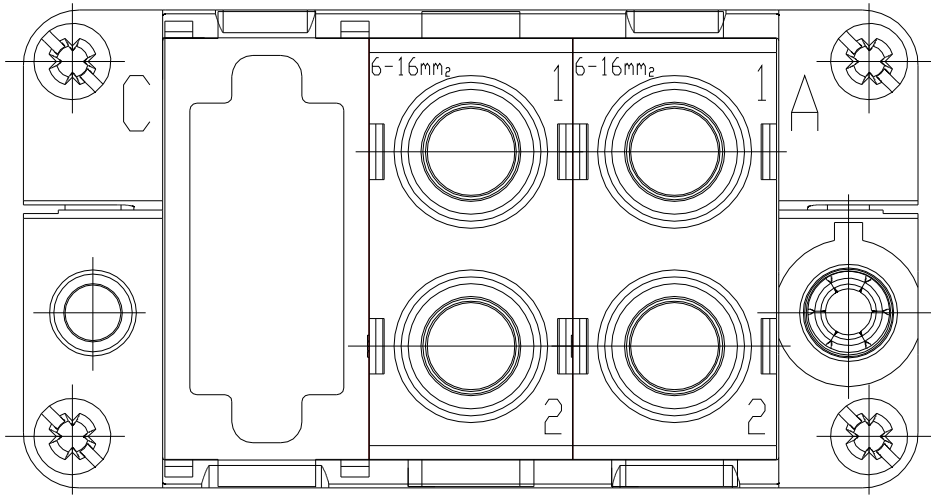
Fill stuff: 09 14 000 9950 1

Contact arrangement: view from termination side housing (from control panel)

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1 ... 3

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## 2. Interface –CN2 (Harting plug DC110V Power supply )

-CN2						minimal
Pin	to device		No. wire control panel	No. wire unit	nominal current [A]	cross-section [mm <sup>2</sup> ]
A1	DC110V power supply	ROCKCLASSIC Module		241		1,5
A2	DC110V power supply			242		1.5
A3	Reserve					
A4	Reserve					
A5	Reserve					
A6	Authorization ventilation				720	
6	3	Number of pins with 3 reserve				

The colour of cable inside of the VAC unit is black, wires are white or black, protective groundings are green-yellow

Configuration of connection (ALSTOM, SFRT):                      piece    page (Harting Rockstar)

ALSTOM: car side

SFRT:    unit side

Plug:                      ROCKCLASSIC

Frame for 3 modules:	09 14 010 0303	1	06.11
Hood(top entry): 1xM20	19 30 010 1430	1	31.43
Module:            Female	09 14 006 3101	1	06.31
Fill stuff:	09 14 000 9950	2	
Contact:            Female	09 33 000 6204	2	06.31
Contact:            Female	09 33 000 6205	1	06.31

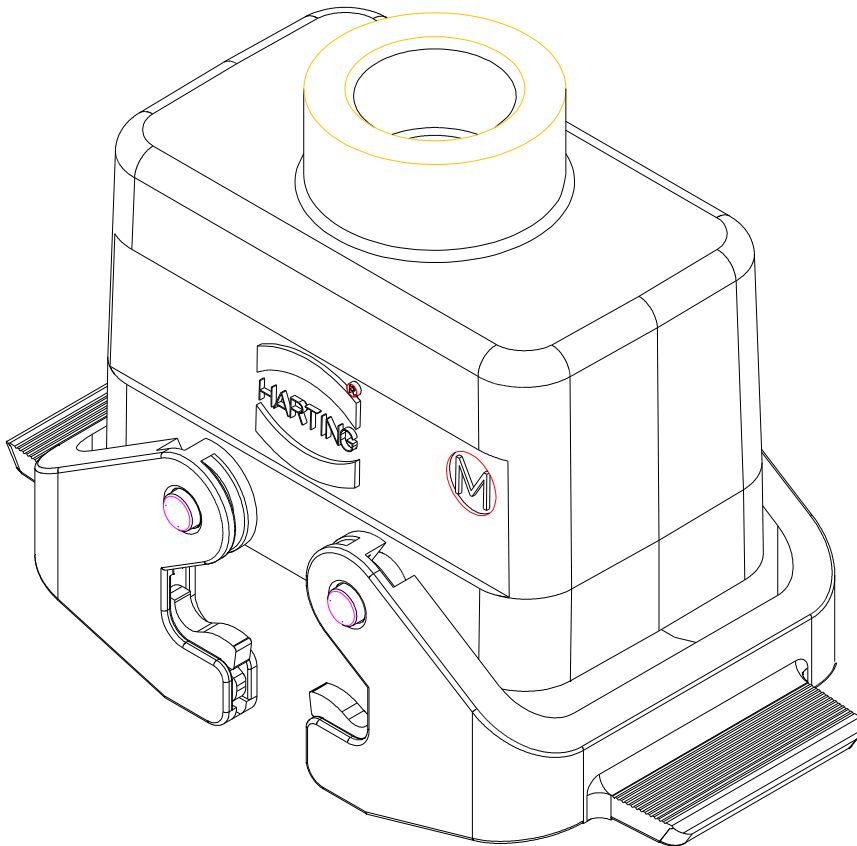
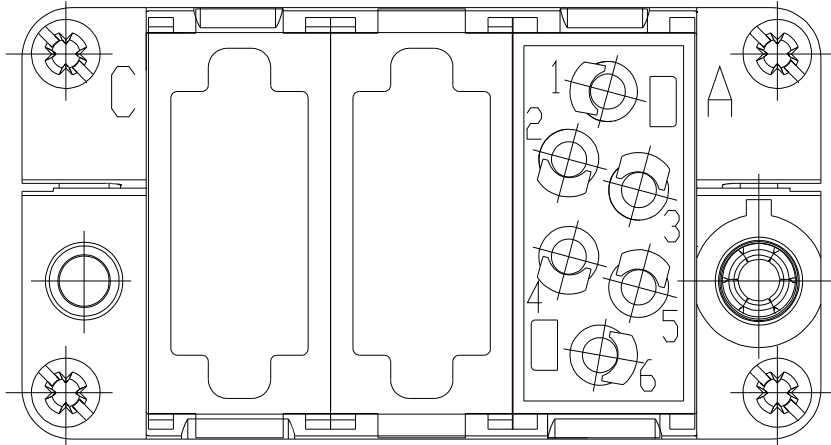
Socket:                      ROCKCLASSIC

Frame for 3 modules:	09 14 010 0313	1	06.11
Housing:	09 30 010 0302	1	31.43
Module :            Male	09 14 006 3001	1	06.31
Fill stuff:	09 14 000 9950	2	
Contact:            Male	09 33 000 6104	2	06.31
Contact:            Male	09 33 000 6105	1	06.31

Contact arrangement: view from termination side housing (from control panel)

=>

1            ...            6



### 3. FPC08 unit plug –CN3 (Harting plug female ,CAN)

Pin	to device		No. wire control panel	No. wire unit	nominal current [A]	minimal cross-section [mm <sup>2</sup> ]
1		D-SUB				
2	-CAN				<1	0.5
3	0VCAN				<1	0.5
4						
5						
6						
7	+CAN				<1	0.5
8						
9						
CH	Screen					
9	3	Number of pins with 6 reserve				

The cable type is: TWINAX 2X0.5 120 OHMS+1X0.5 (Nexans) screen should be connect to the harting housing!

Configuration of connection ([ALSTOM](#), SFRT): piece page (Harting 11-2)

[ALSTOM](#): car side

SFRT: unit side

plug: D-SUB

Top entry hood	61 03 001 3010	1	06.09
Crimp contact (male)	61 03 000 0073	3	02.30
Crimp terminal (male)	09 67 009 5601	1	09.12
Crimp flange	61 03 000 0066	1	09.08
Crimp ferrule	61 03 000 0051	1	09.08

socket: D-SUB

Top entry hood	61 03 001 3010	1	06.09
Crimp contact (female)	61 03 000 0074	3	02.30
Crimp terminal (female)	09 67 009 4701	1	09.12
Crimp flange	61 03 000 0066	1	09.08
Crimp ferrule	61 03 000 0051	1	09.08

## 4. FPC08 unit plug –CN5 (Harting plug male,CAN)

-CN5						minimal
Pin	to device		No. wire control panel	No. wire unit	nominal current [A]	cross-section [mm <sup>2</sup> ]
1		D-SUB				
2	-CAN				<1	0.5
3	0VCAN				<1	0.5
4						
5						
6						
7	+CAN				<1	0.5
8						
9						
CH	Screen					
9	3	Number of pins with 6 reserve				

The cable type is: TWINAX 2X0.5 120 OHMS+1X0.5 (Nexans) screen should be connect to the harting housing!

Configuration of connection ([ALSTOM](#), SFRT): piece page (Harting 11-2)

[ALSTOM](#): car side

SFRT: unit side

plug: D-SUB

Top entry hood	61 03 001 3010	1	06.09
Crimp contact (female)	61 03 000 0074	3	02.30
Crimp terminal (female)	09 67 009 4701	1	09.12
Crimp flange	61 03 000 0066	1	09.08
Crimp ferrule	61 03 000 0051	1	09.08

socket: D-SUB

Top entry hood	61 03 001 3010	1	06.09
Crimp contact (male)	61 03 000 0073	3	02.30
Crimp terminal (male)	09 67 009 5601	1	09.12
Crimp flange	61 03 000 0066	1	09.08
Crimp ferrule	61 03 000 0051	1	09.08

5. Plug –CN4 (USB plug ,RS232)

-CN4						minimal
Pin	to device		No. wire control panel	No. wire unit	nominal current [A]	cross-section [mm <sup>2</sup> ]
1		D-SUB			<1	0.5
2					<1	0.5
3					<1	0.5
4					<1	0.5
4	4	Number of pins with 0 reserve				

## 6.Interface of controller FPC08

### 6.1 Digital inputs/output (AMP\_DI\_DO\_P3)

#### 1. FPC08

Pin	to device	No. wire unit	maximal (!!!) cross-section [mm²]
P3_12_DI_01	PWR	720	1.0
P3_13_DI_02	Feedback HP1	223	1.0
P3_14_DI_03	Feedback HP2	231	1.0
P3_15_DI_04	SAF emergency ventilation contactor KM17 feedback	628	1.0
P3_16_DI_05	Compressor1 OK	609	1.0
P3_17_DI_06	Compressor2 OK	610	1.0
P3_18_DI_07	heater 1 contactor KM18 feedback	611	1.0
P3_19_DI_08	heater 2 contactor KM19 feedback	612	1.0
P3_05_DO_01	Compressor1	711	1.0
P3_04_DO_02	Compressor2	712	1.0
P3_03_DO_03	Condenser fan1	533	1.0
P3_02_DO_04	Condenser fan2	537	1.0
P3_07_DO_05	SAF high speed	543	1.0
P3_08_DO_06	SAF low speed	547	1.0
P3_09_DO_07	Reserve		
P3_10_DO_08	FPC ok	903	1.0
16	15	Number of Pins (with 1 reserve)	
Requested opposite parts of plug:			
Ordering number	Description	Supplier	Piece
VAGO			
734-220 / 000-300	Plug male 20 pin	VAGO	1
			SFRT-reference

## 6.2 Analogue inputs (AMP\_AI\_P2)

### 1. FPC08

Pin	To device		No. wire unit	maximal (!!!) cross-section [mm²]
P2_6/13_AI_01	Fresh air temp.sensor(unit)	shielded	424/425	0.75
P2_8/7_AI_02	return air temp. sensor(unit)	shielded	427/428	0.75
P2_10/11_AI_03	supply air temp.sensor(unit)	shielded	430/431	0.75
P2_12/5_AI_04	Power normal operation detection	shielded	450/451	0.75
P2_14/9_AI_05	Power emergency operation detection	shielded	453/454	0.75
P2_16/4_AI_06	Reserve			
	6	5	Number of Pins (with 1 reserve)	
Ordering number VAGO	Description	Supplier	Piece	SFRT-reference
734-216/000-300	Plug male 16 pin	VAGO	1	

### 6.3 Power supply (AMP\_P1)

#### 1. FPC08

				maximal (!!!)
Pin	To device		No. wire unit	cross-section [mm <sup>2</sup> ]
P1_1_supply(-)minus	DC 110V (-)		990	1.0
P1_2_supply(+)plus	DC 110V (+)		254	1.0
2		2	Number of Pins (totally and without reserve)	
Ordering number VAGO	Description	Supplier	Piece	SFRT-reference
734-202/037-300	Plug male 2 pin	VAGO	1	

## 7. DIO08 (WAGO TERMINAL ,X1、 X2、 X4、 X5、 X6、 X7)

Configuration of connection (SFRT):

WAGO terminal	piece
X1 : Connector: 231-302/026-000 2pol. Ping spacing 5,08mm	1
X2: Connector: 231-304/026-000 4pol. Ping spacing 5,08mm	1
X4: Connector: 231-306/026-000 6pol. Ping spacing 5,08mm	1
X5: Connector: 231-306/026-000 6pol. Ping spacing 5,08mm	1
X6: Connector: 231-305/026-000 5pol. Ping spacing 5,08mm	1
X7: Connector: 231-305/026-000 5pol. Ping spacing 5.18mm	1

### DIO08 (X1-X7)

Pin	to device	No. wire unit	maximal (!!!) cross-section [mm²]
X1_1	DC power plus	256	1,0
X1_2	DC power minus	253	
X2_3_CH	Can+	Can+	0.5
X2_4_CL	Can-	Can-	0.5
X4_1_DO_04	Hot gas bypass solenoid2	346	1.0
X4_2_OC	Reference+	258	1.0
X4_3_DO_03	Hot gas bypass solenoid1	345	1.0
X4_4_DO_02	Fresh air damper	364	1.0
X4_5_OC	Reference+	259	1.0
X4_6_DO_01	Return air damper	409	1.0
X5_1_DO_05	emergency ventilation	810	1.0
X5_2_OC	Reference+	472	1.0
X5_3_DO_06	heater group 1	820	1.0
X5_4_DO_07	heater group 2	821	1.0
X5_5_OC	Reference+	471	1.0
X5_6_DO_08	Reserve		
X6_1_DI_04	Feedback LP2	254	1.0
X6_2_DI_03	Feedback LP1	252	1.0
X6_3_DI_02	SAF low speed ok	623	1.0
X6_4_DI_01	SAF high speed ok	613	1.0
X6_5_IC	Reference-	377	1.0
X7_1_IC	Reference-	376	1.0
X7_2_DI_05	Fresh air damper 1&2 feedback	361	1.0
X7_3_DI_06	Feedback of Condenser fan 1+2	652	1.0
X7_4_DI_07	Feedback of R.A.D	443	1.0
X7_5_DI_08	Heater overload	670	1.0