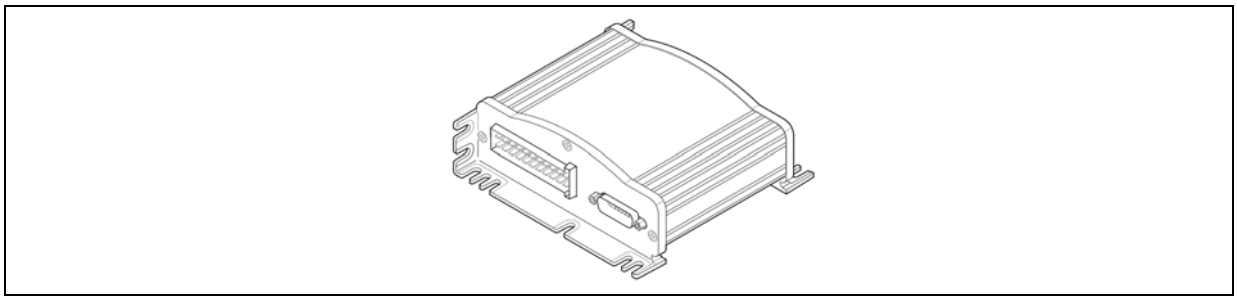
MS350

Thank you for choosing a product from Standby.

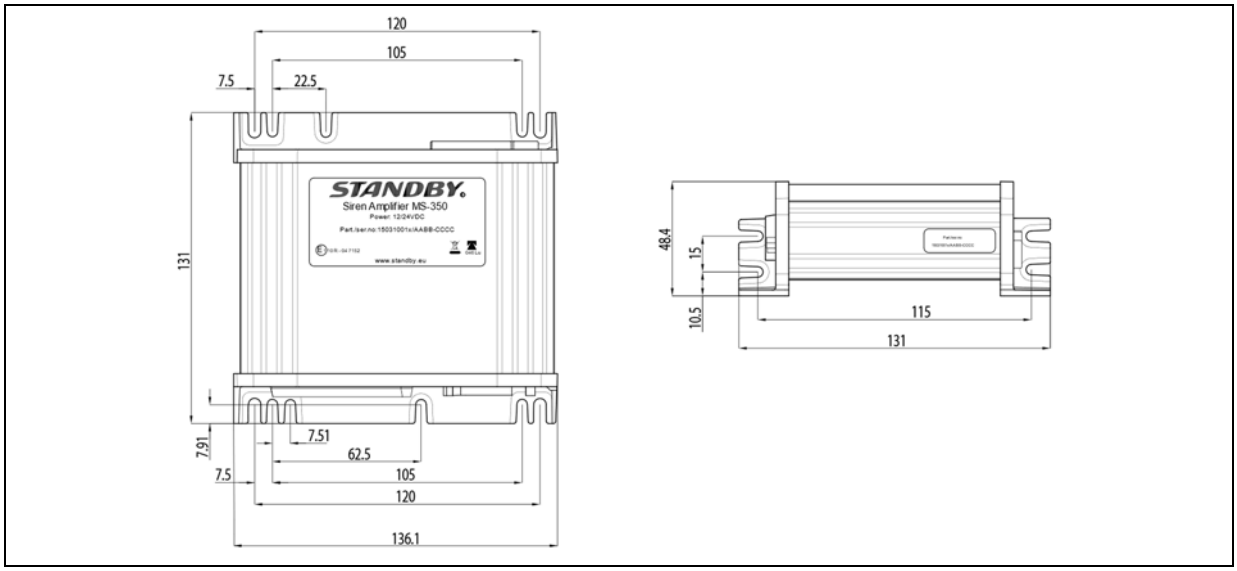
Technical Data

Description	Units
Dimensions	44.6 mm x 136.1 mm x 131 mm
Weight	Approx. 400 g
Nominal voltage	12 / 24 VDC
Operating voltage	10,8 to 14.4 VDC / 21.6 to 28.8 VDC
Limit voltage	-32 to + 32 VDC
Current consumption	< 500µA at standby mode
Inputs	7 x < 20mA, active high 1 x < 20mA, active low
Outputs	2 x < 6A 4 x < 2A
Enclosure rating	IP 54
Approvals - Accoustic - EMC	 T046Lu (Swedish approval, only valid together with two KSR350 4Ω(12V)/16Ω(24V)) ECE R10

Included

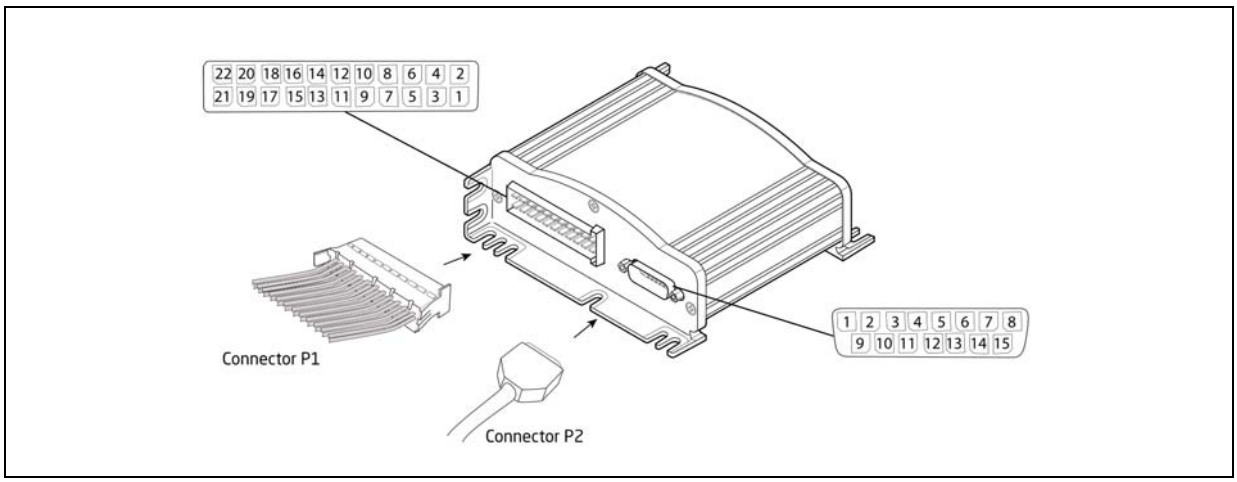


Installation



The Control-Unit can be installed as desired in the vehicle interior. Due to the housing design, the Control-Unit can be variably attached and connected to the vehicle with four screws. Care must be taken to ensure good accessibility of the connectors.

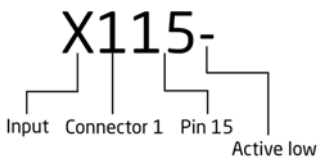
Connection



Explanation of naming
X = Input
Y = Output
S = Supply

The first number in the name describes the connector number and the second number the pin number.
+ means active high, connect to positive supply to activate.
- means active low, connect to ground to activate.

Example



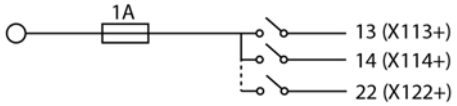
Connector P1 22p Female

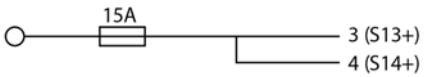
Connector: AMP, 929504-7 22P
Socket: AMP, 927777-1

For more information regarding functions for each pin see BCD-wheel section

Recommended fuses

All active high inputs should be fused with max 1A.
Pin 3 and 4 (S13+ and S14+) should together be fused max 15A fuse.





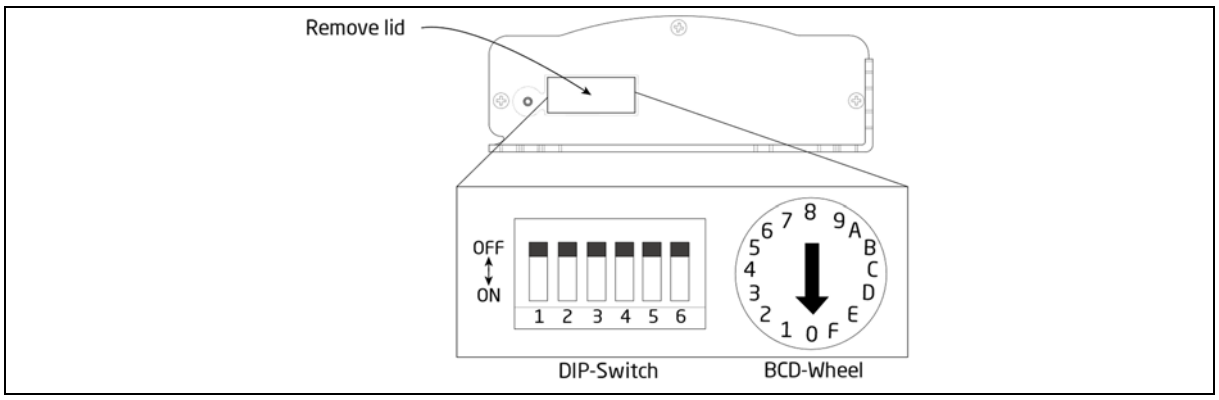
Connector P2 SUB-D 15P Female

Recommended metal hood: MH Connectors, MHDTZK15-K
Recommended crimp socket: Molex, FL15S7-K121
Recommended crimp contacts: Molex 1731120432, 20-24 AWG

Pin	Function	Standby Name
1	Output for external devices	Y21+
2	PA microphone PTT +	X22+
3	PA microphone + signal, high, 4mV	X23+
4	PA microphone shield	Shield
5	Audio input + signal, high, 400mV	X25+
6	Not used	Not used
7	Not used	Not used
8	Not used	Not used

Pin	Function	Standby Name
9	Ground for external devices	Y29-
10	Audio PTT +	X210+
11	PA microphone - signal, low, 4mV	X211-
12	Audio input – signal, low, 400mV	X212+
13	CAN Low	CANL
14	Not used	Not used
15	CAN High	CANH

Configuration of DIP-Switch and BCD-wheel

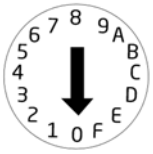


DIP-Switch

DIP No	Function
1	Not used, set to off
2	Not used, set to off
3	Not used, set to off
4	Not used, set to off
5	Not used, set to off
6	Not used, set to off

BCD-Wheel

Turn wheel to choose presets for selected country.



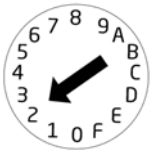
Pos 0 CAN

This position is used when the amplifier is connected to a CAN based control system from Standby. The connected control system sets the functionality of the amplifier. Please see the description for the control system regarding functionality and connection.

Pos 1 Stand-alone functions Sweden

Connector P1

Pin	Function	Standby Name	Imax	Recommended fuse
1	Beacon left	Y11+	6A	
2	Beacon right	Y12+	6A	
3	Power supply for outputs (Y11+, Y12+, Y15+, Y16+, Y17+, Y18+)	S13+	< 20A	Common fuse max 15A (see connection section)
4	Power supply for outputs (Y11+, Y12+, Y15+, Y16+, Y17+, Y18+)	S14+	< 20A	
5	Status ok loudspeaker	Y15+	2A	
6	Status ok beacon left	Y16+	2A	
7	Status ok beacon right	Y17+	2A	
8	Not used	Y18+	2A	
9	- Loudspeaker left	SP19-	5A	
10	+ Loudspeaker left	SP110+	5A	
11	+ Loudspeaker right	SP111+	5A	
12	- Loudspeaker right	SP112-	5A	
13	**Yelp SE** (horn-signal, edge trigged) Activate/deactivate the sound. The sound will automatically be deactivated after 10 seconds. Input X117 or X119 must be active to be able to use this function.	X113+	< 20 mA	max 1A
14	Ground MS-350	S114-	10A	
15	**Yelp SE** (horn-signal, edge trigged) Activate/deactivate the sound. The sound will automatically be deactivated after 10 seconds. Input X117 or X119 must be active to be able to use this function.	X115-	< 20 mA	max 1A
16	Power Supply Amplifier	S116+	10A	10A
17	**Hi/Lo wobbling SE** (continuous feed) Activates the sound AND the output Beacon. This input has higher priority than X119+.	X117+	< 20 mA	max 1A
18	**Beacon** (continuous feed)	X118+	< 20 mA	max 1A
19	**Hi/Lo clean SE** (continuous feed) Activates the sound AND the output Beacon.	X119+	< 20 mA	max 1A
20	Not used	X120+	< 20 mA	max 1A
21	Not used	X121+	< 20 mA	max 1A
22	**Air Horn** (continuous feed) This sound has higher priority than all other sounds.	X122+	< 20 mA	max 1A



Pos 2 Stand-alone functions Norway

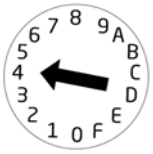
Connector P1

Pin	Function	Standby Name	Imax	Recommended fuse
1	Beacon left	Y11+	6A	
2	Beacon right	Y12+	6A	
3	Power supply for outputs (Y11+, Y12+, Y15+, Y16+, Y17+, Y18+)	S13+	< 20A	Common fuse max 15A(see connection section)
4	Power supply for outputs (Y11+, Y12+, Y15+, Y16+, Y17+, Y18+)	S14+	< 20A	
5	Status ok loudspeaker	Y15+	2A	
6	Status ok beacon left	Y16+	2A	
7	Status ok beacon right	Y17+	2A	
8	Not used	Y18+	2A	
9	- Loudspeaker left	SP19-	5A	
10	+ Loudspeaker left	SP110+	5A	
11	+ Loudspeaker right	SP111+	5A	
12	- Loudspeaker right	SP112-	5A	
13	**Yelp US** (horn-signal, edge trigged) Activate/deactivate the sound. The sound will automatically be deactivated after 10 seconds. Input X117 must be active to be able to use this function.	X113+	< 20 mA	max 1A
14	Ground MS-350	S114-	10A	
15	**Yelp US** (horn-signal, edge trigged) Activate/deactivate the sound. The sound will automatically be deactivated after 10 seconds. Input X117 must be active to be able to use this function.	X115-	< 20 mA	max 1A
16	Power Supply Amplifier	S116+	10A	10A
17	**Wail US** (continuous feed) Activates the sound AND the output Beacon.	X117+	< 20 mA	max 1A
18	**Beacon** (continuous feed)	X118+	< 20 mA	max 1A
19	Not used	X119+	< 20 mA	max 1A
20	Not used	X120+	< 20 mA	max 1A
21	Not used	X121+	< 20 mA	max 1A
22	**Air Horn** (continuous feed) This sound has higher priority than all other sounds.	X122+	< 20 mA	max 1A

Pos 3 Stand-alone functions Denmark

Connector P1

Pin	Function	Standby Name	Imax	Recommended fuse
1	Beacon left	Y11+	6A	
2	Beacon right	Y12+	6A	
3	Power supply for outputs (Y11+, Y12+, Y15+, Y16+, Y17+, Y18+)	S13+	< 20A	Common fuse max 15A(see connection section)
4	Power supply for outputs (Y11+, Y12+, Y15+, Y16+, Y17+, Y18+)	S14+	< 20A	
5	Status ok loudspeaker	Y15+	2A	
6	Status ok beacon left	Y16+	2A	
7	Status ok beacon right	Y17+	2A	
8	Not used	Y18+	2A	
9	- Loudspeaker left	SP19-	5A	
10	+ Loudspeaker left	SP110+	5A	
11	+ Loudspeaker right	SP111+	5A	
12	- Loudspeaker right	SP112-	5A	
13	**Manually change sound** (horn-signal, edge trigged) When only blue light is ON sound Hi/Lo clean SE will be played for 2 cycles. When activating more than one sound at the same time this input is used to change to next sound manually.	X113+	< 20 mA	max 1A
14	Ground MS-350	S114-	10A	
15	**Manually change sound** (horn-signal, edge trigged) When only blue light is ON sound Hi/Lo clean SE will be played for 2 cycles. When activating more than one sound at the same time this input is used to change to next sound manually.	X115-	< 20 mA	max 1A
16	Power Supply Amplifier	S116+	10A	10A
17	**Hi/Lo clean SE** (continuous feed) Activates the sound AND the output Beacon. This input has higher priority than X119 and X121 if activated at the same time.	X117+	< 20 mA	max 1A
18	**Beacon** (continuous feed).	X118+	< 20 mA	max 1A
19	**Yelp SE** (continuous feed) Activates the sound AND the output Beacon. This input has higher priority than X121 if activated at the same time.	X119+	< 20 mA	max 1A
20	**Automatically change sound** (continuous feed) When activating more than one sound at the same time this input activates automatically sound change. The sounds will be played in a loop. Each sound will be played for a minimum of 6 seconds (the currently played cycle must be completed). Input +/- X113 can be used to force to next sound before the time has ended.	X120+	< 20 mA	max 1A
21	**Wail US** (continuous feed) Activates the sound AND the output Beacon.	X121+	< 20 mA	max 1A
22	**Air Horn** (continuous feed) This sound has higher priority than all other sounds.	X122+	< 20 mA	max 1A



Pos 4 Stand-alone functions Finland

Connector P1

Pin	Function	Standby Name	Imax	Recommended fuse
1	Beacon left	Y11+	6A	
2	Beacon right	Y12+	6A	
3	Power supply for outputs (Y11+, Y12+, Y15+, Y16+, Y17+, Y18+)	S13+	< 20A	Common fuse max 15 A (see connection section)
4	Power supply for outputs (Y11+, Y12+, Y15+, Y16+, Y17+, Y18+)	S14+	< 20A	
5	Status ok loudspeaker	Y15+	2A	
6	Status ok beacon left	Y16+	2A	
7	Status ok beacon right	Y17+	2A	
8	Not used	Y18+	2A	
9	- Loudspeaker left	SP19-	5A	
10	+ Loudspeaker left	SP110+	5A	
11	+ Loudspeaker right	SP111+	5A	
12	- Loudspeaker right	SP112-	5A	
13	**Manually change sound** (horn-signal, edge trigged) When only blue light is ON sound Yelp SE will be played for 20 cycles. When activating more than one sound at the same time this input is used to change to next sound manually.	X113+	< 20 mA	max 1A
14	Ground MS-350	S114-	10A	max 1A
15	**Manually change sound** (horn-signal, edge trigged) When only blue light is ON sound Yelp SE will be played for 20 cycles. When activating more than one sound at the same time this input is used to change to next sound manually.	X115-	< 20 mA	max 1A
16	Power Supply Amplifier	S116+	10A	10A
17	**Hi/Lo clean SE** (continuous feed) Activates the sound AND the output Beacon. This input has higher priority than X119 and X121 if activated at the same time.	X117+	< 20 mA	max 1A
18	**Beacon** (continuous feed)	X118+	< 20 mA	max 1A
19	**Yelp SE** (continuous feed) Activates the sound AND the output Beacon. This input has higher priority than X121 if activated at the same time.	X119+	< 20 mA	max 1A
20	**Automatically change sound** (continuous feed) When activating more than one sound at the same time this input activates automatically sound change. The sounds will be played in a loop. Each sound will be played for a minimum of 6 seconds (the currently played cycle must be completed). Input +/- X113 can be used to force to next sound before the time has ended.	X120+	< 20 mA	max 1A
21	**Wail US** (continuous feed) Activates the sound AND the output Beacon.	X121+	< 20 mA	max 1A
22	**Air Horn** (continuous feed) This sound has higher priority than all other sounds.	X122+	< 20 mA	max 1A

Compatible Products

For more information regarding compatible products: www.standbygroup.se

Standby will not be held liable for improper installation or use of this product. Please follow all instructions provided. Professional advice and proper installation of the Standby products by an authorized Standby Partner are recommended to provide maximum safety and function