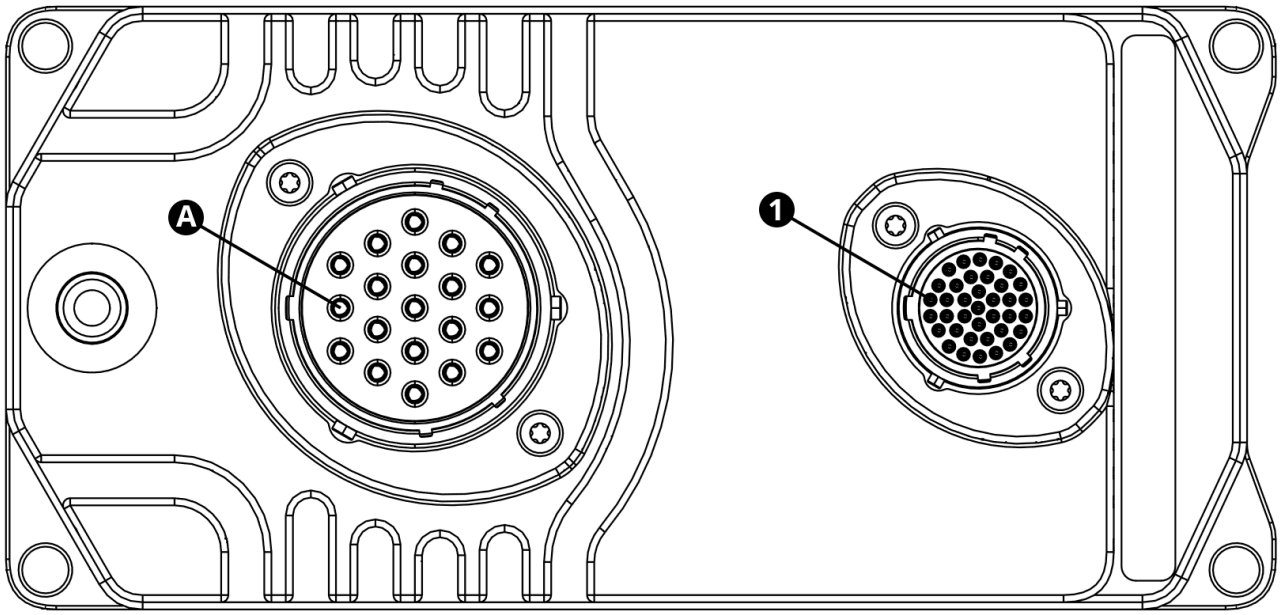
PMU-16AS Pinout v1.3

Device view:



Connector part numbers:

Connector series	Deutsch AS + Radlok	
Connector 37P	AS614-35SN	37 Positions
Terminal 37P	M39029/56-348	22-28 AWG
Connector 19P	AS624-19	19 Positions
Terminal 19P	38941-12L	12-14 AWG
Battery connector (150 A)	RL00801-35RE	1-2 AWG
Battery connector (200 A)	RL00801-50RE	0-1 AWG

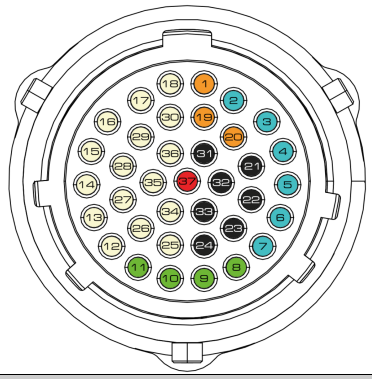
Power pins		
Name	**Count**	**Description**
+12V battery	1	Main power supply connection for outputs and PMU itself. Connected through the Radlok stud on the device. Maximum constant current: 200 A.
+12V sw	1	+12V signal input to switch the PMU on or off. Should be connected to +12V after the ignition switch.
Ground	1	Ground connection for the device supply current and low side outputs. Connect to the supply ground.
+5V output	3	+5V sensor supply. Can provide up to 500 mA of current.
Sensor ground	7	Ground connection for elements connected to the device inputs. Should NOT be connected to the vehicle ground externally.

Communication pins		
Name	**Count**	**Description**
CAN1H/L	2	CAN bus, fixed 1 Mbps, used for communication with PC and peripheral devices. Communication with PC software can only be done through this CAN bus. No internal termination resistor. External termination is required. Fully configurable communication.
CAN2H/L	2	CAN bus, configurable speed, used for communication with peripheral devices. Configurable speed: 125, 250, 500, and 1000 kbps. Software controlled termination resistor. Fully configurable communication

Input pins		
Name	**Count**	**Description**
Input A1-A16	16	Analog signal input. Input for analog signals (voltage). Analog signals must be connected between these inputs and the sensor ground. Pull resistors can be selected through software independently for every input. The available options are 1MΩ pull down, 10kΩ pull down, and 10kΩ pull up. Measurement frequency: 500 Hz. Measurement resolution: 10 bit. Measurement voltage range: 0-5 V. Maximum input voltage: 20 V.

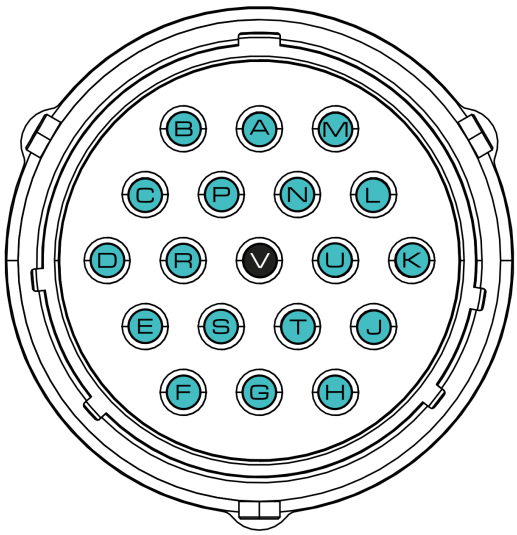
Output pins		
Name	**Count**	**Description**
Output O4 Output O12	4	40 A high side outputs. There are 2 terminals per output. Both terminals of the output have to be connected for 40 A capability. Using a single terminal lowers the maximum current to 25 A. Power outputs that can be disconnected (Hi-Z) or connected to the supply voltage (+12 V). Outputs can be connected in parallel to increase current capabilities. Configurable overcurrent protection. Short circuit/overtemperature protection. Current measurement. PWM capability. Minimum current measured: 0 - 2 A (0.5 A typical). Maximum current measured: 120 A. Maximum peak current: 120 A. Maximum peak current time: 2s. Maximum constant current (two terminals): 40 A. Maximum constant current (one terminal): 25 A. Minimum PWM frequency: 4 Hz. Maximum PWM frequency: 400 Hz. Voltage measurement range: 0-16 V. Turn off voltage clamp: 36 V.
Output O1-O3 Output O5-O11 Output O13-O16	14	25 A high side outputs. Power outputs that can be disconnected (Hi-Z) or connected to the supply voltage (+12 V). Outputs can be connected in parallel to increase current capabilities. Configurable overcurrent protection. Short circuit/overtemperature protection. Current measurement. Output O8 has additional functionality to allow wipers motor braking. PWM capability. Minimum current measured: 0 - 2 A (0.5 A typical). Maximum current measured: 120 A. Maximum peak current: 120 A. Maximum peak current time: 2s. Maximum constant current: 25 A. Minimum PWM frequency: 4 Hz. Maximum PWM frequency: 400 Hz. Voltage measurement range: 0-16 V. Turn off voltage clamp: 36 V.
Low-side output L1-L6	6	1 A low side outputs. Power outputs that can be disconnected (Hi-Z) or connected to the ground (GND). Outputs can be connected in parallel to increase current capabilities. Short circuit/overtemperature protection. Maximum peak current: 13 A. Maximum constant current: 1 A.

Connector 37P:



Pin	Name	Description
1	+5V output	+5V sensor supply.
2	Low-side output L1	1A low side output.
3	Low-side output L2	1A low side output.
4	Low-side output L3	1A low side output.
5	Low-side output L4	1A low side output.
6	Low-side output L5	1A low side output.
7	Low-side output L6	1A low side output.
8	CAN2H	CAN bus, configurable speed, used for communication with peripheral devices.
9	CAN2L	CAN bus, configurable speed, used for communication with peripheral devices.
10	CAN1H (PC comm)	CAN bus, fixed 1Mbps, used for communication with PC and peripheral devices.
11	CAN1L (PC comm)	CAN bus, fixed 1Mbps, used for communication with PC and peripheral devices.
12	Input A15	Analog signal input.
13	Input A12	Analog signal input.
14	Input A9	Analog signal input.
15	Input A6	Analog signal input.
16	Input A4	Analog signal input.
17	Input A2	Analog signal input.
18	Input A1	Analog signal input.
19	+5V output	+5V sensor supply.
20	+5V output	+5V sensor supply.
21	Sensor ground	Ground for input signals.
22	Sensor ground	Ground for input signals.
23	Sensor ground	Ground for input signals.
24	Sensor ground	Ground for input signals.
25	Input A16	Analog signal input.
26	Input A14	Analog signal input.
27	Input A11	Analog signal input.
28	Input A8	Analog signal input.
29	Input A5	Analog signal input.
30	Input A3	Analog signal input.
31	Sensor ground	Ground for input signals.
32	Sensor ground	Ground for input signals.
33	Sensor ground	Ground for input signals.
34	Input A13	Analog signal input.
35	Input A10	Analog signal input.
36	Input A7	Analog signal input.
37	+12V sw	+12V signal input to switch the PMU on or off.

Connector 19P:



Pin	Name	Description
A	Output O16	25 A high side output.
B	Output O15	25 A high side output.
C	Output O13	25 A high-side output.
D	Output O12 (1 of 2)	40 A high side output. One of two terminals for that output.
E	Output O11	25 A high side output.
F	Output O9	25 A high side output.
G	Output O8 (wipers)	25 A high side output. Additional functionality for wipers motor braking.
H	Output O6	25 A high side output.
J	Output O5	25 A high side output.
K	Output O4	40 A high side output. One of two terminals for that output.
L	Output O3	25 A high side output.
M	Output O2	25 A high side output.
N	Output O1	25 A high side output.
P	Output O14	25 A high side output.
R	Output O12	40 A high side output. One of two terminals for that output.
S	Output O10	25 A high side output.
T	Output O7	25 A high side output.
U	Output O4	40 A high side output. One of two terminals for that output.
V	Ground	Device ground.

Document revision history:

Revision	Date	Changes
1.3	2025-04-15	- fixed wrong description of Low-side output L6
1.2	2024-02-09	- fixed wrong description of 25 A outputs
1.1	2023-10-06	- first public version