

Model Name: BPCMSW
Type of product: Battery Pack Control Module
Brand Name: Visteon
Manufacturer: Visteon Corporation
Manufacturer Address: One Village Center Drive, Van Buren Township
48111-5711 Michigan
United States of America

BPCMSW Features

The Battery Pack Control Module (BPCM) serves as the electronic controller, equipped with necessary sensing and actuation circuits, a microprocessor, and embedded software.

All cell voltages and module temperatures are reported directly to the BPCM (Battery Pack Control Module) on a regular periodic basis via Wireless communication.

The Battery Pack Control Module (BPCM) comprises a central electronic board and local cell supervising electronics that are responsible for the individual monitoring of each cell.

The BPCM implements Monitoring Unit boards that uses a Pinnacle IC (ADRF8951), this is an IC that provides wireless communication between the Battery Cell Monitoring chip and the Battery Management System Controller.

BPCMSW operates in the frequency range 2.405 GHz - 2.480 GHz (ISM band) by using Wireless battery management technology.

Wireless BPCMSW Connector Pinout (Cell Connections)

For wireless BMS applications, CSC is integrated into battery module. BMS and Battery Pack Supplier shall be responsible to connect all battery cells to CSC modules. Every single wire between battery cell voltage acquisition point to CSC module shall have fuse protection circuit.

CSC shall contain passive balancing circuitry. BPCM shall have protection to ensure that the balancing does not turn on when it's not intended to balance. Cell balancing logic shall follow SRD requirements.

DUT Pinout Information

Connector J1 Pinout				
Pin No.	Pin Name	Definition	Type	Max Current (A)
J1-1	VKL30	KL30 LV Power	In	1.87 (< 2ms)
J1-2	VKL30C	KL30C Contactor Power	In	7.25 (< 130ms)
J1-3	PYRO-FUSE-1_HSD	Pyro_Fuse Trigger Signal HSD Output [Battery 1]	Out	6 (< 130ms)
J1-4	GND	Vehicle GND	Out	8.45 (< 130ms)
J1-5	TEMP_SENS_4-5-7_RET	Temp 4/5/7 Return	In	0.01
J1-6	TEMP_SENS_3-6_RET	Temp 3/6 Return	In	0.005
J1-7	BREAKTOR-1_DIAG1	[Breaktor 1] Diagnostic 1 - Mirror State	In	0.0005

J1-8	BREAKTOR-1_DIAG2	[Breaktor 1] Diagnostic 2 - Internal (PWM)	In	0.0005
J1-9	Hall_CS-1-2_RET	12V-Hall Secondary Current Sensor Return (x2 Sensors)	In	0.4
J1-10	BREAKTOR-3_DIAG1	DCFC [Breaktor 3] Diagnostic 1 - Mirror State	In	0.0005
J1-11	P2_RELAY_LSD	[P2] (Positive) Pre charge relay LSD [Breaktor 2]	In	0.28
J1-12	VSS_1-3	[Breaktor] Coil VSS [1 & 3]	Out	11.9 (< 130ms)
J1-13	P4_RELAY_LSD	[P4] (Negative) Pre charge relay LSD [Breaktor 2]	In	0.28
J1-14	P3_RELAY_LSD	[P3] (Negative) Pre charge relay LSD [Breaktor 1]	In	0.28
J1-15	P1_RELAY_LSD	[P1] (Positive) Pre charge relay LSD [Breaktor 1]	In	0.28
J1-16	BREAKTOR-3_DIAG2	DCFC [Breaktor 3] Diagnostic 2 - Internal (PWM)	In	0.0005
J1-17	ACU_IN_POS	ORC crash input	In	0.05
J1-18	GND	Vehicle GND		8.45 (< 130ms)
J1-19	HVIL2_OUT	External(PWM) HVIL output	Out	0.03
J1-20	BREAKTOR_VDD12V_2	[Breaktor] 12V HSD (Low-Current VDD EE Supply) [1,2,3]	Out	0.3
J1-21	VKL30	KL30 LV Power	In	1.87 (< 2ms)
J1-22	VKL30C	KL30C Contactor Power	In	7.25 (< 130ms)
J1-23	PYRO-FUSE-1_LSD	Pyro_Fuse Trigger Signal LSD Input [Battery 1]	In	6 (< 130ms)
J1-24	BREAKTOR-1_ENA	[Breaktor 1] 5V Enable (Switch Command)	Out	0.005
J1-25	TEMP_SENS-7_ANA	Temp 7 - BDU Ambient Temp	In	0.005
J1-26	TEMP_SENS-5_ANA	Temp 5 - DCFC (Breaktor 3) Temp	In	0.005
J1-27	TEMP_SENS-3_ANA	Temp 3 - Breaktor 1 Temp	In	0.005
J1-28	TEMP_SENS-4_ANA	Temp 4 - Breaktor 2 Temp	In	0.005
J1-29	HALL_CS-1-2_HSD	12V-Hall Secondary Current Sensor Power Supply (x2 Sensors)	12V Out	0.4
J1-30	SHUNT_CS-1-2_RET	12V-Shunt Primary Current Sensor Return (x2 Sensors)		0.4
J1-31	SHUNT_CS-1-2_HSD	12V-Shunt Primary Current Sensor Power Supply (x2 Sensors)	12V Out	0.4
J1-32	P2_RELAY_HSD	[P2] (Positive) Pre charge relay HSD [Breaktor 2]	Out	0.28
J1-33	BREAKTOR-1_VDD12V_1	[Breaktor 1] 12V HSD (High-Current Coil Supply)	Out	11.8 (< 130ms)
J1-34	P4_RELAY_HSD	[P4] (Negative) Pre charge relay HSD [Breaktor 2]	Out	0.28
J1-35	P3_RELAY_HSD	[P3] (Negative) Pre charge relay HSD [Breaktor 1]	Out	0.28
J1-36	P1_RELAY_HSD	[P1] (Positive) Pre charge relay HSD [Breaktor 1]	Out	0.28
J1-37	N/C	No Connection		--
J1-38	HCP_EVCU_WAKEUP	HCP/EVCU WakeUp	In	0.01
J1-39	HVIL2_IN	External(PWM) HVIL input	In	0.03
J1-40	BREAKTOR-3_ENA3	DCFC (Breaktor 3) 5V Enable (Switch Command)	Out	0.005

Connector J2 Pinout

Pin No.	Pin Name	Definition	Type	Max Current (A)
J2-1	N/C	No Connection		---
J2-2	PYRO-FUSE-2_HSD	Pyro_Fuse Trigger Signal HSD Output [Battery 2]	Out	6 (< 2ms)
J2-3	TEMP_SENS-2_ANA	TEMP2 (cooling temperature sensor 2 - outlet)	In	0.005
J2-4	PRESSURE_SENSOR_WAKEUP	Pressure Sensor WakeUp - In	In	0.005
J2-5	TEMP_SENS-6_ANA	Temp 6 - Series Switch Temp	Out	0.005
J2-6	SCAN_L	Service CAN Low	In/Out	0.1
J2-7	DCAN_L	Diagnostic CAN Low [DCAN_L]	In/Out	0.1
J2-8	BREAKTOR-2_DIAG1	[Breaktor 2] Diagnostic 1 - Mirror State	In	0.0005
J2-9	BREAKTOR-2_DIAG2	[Breaktor 2] Diagnostic 2 - Internal (PWM)	In	0.0005
J2-10	VCAN_H	Vehicle CAN High (Primary) [CANFD11_H]	In/Out	0.1
J2-11	VCAN_L	Vehicle CAN Low (Primary) [CANFD11_L]	In/Out	0.1
J2-12	FSCAN_H	Vehicle CAN High (Secondary) [CANFD5_H]	In/Out	0.1
J2-13	FSCAN_L	Vehicle CAN Low (Secondary) [CANFD5_L]	In/Out	0.1
J2-14	SERIES_SWITCH_HSD	Series Switch Contactor Coil (+)	Out	0.67
J2-15	SERIES_SWITCH_NO	Series Switch Normally Open Contact		0.005
J2-16	SERIES_SWITCH_LSD	Series Switch Contactor Coil (-)	In	0.67
J2-17	PYRO-FUSE-2_LSD	Pyro_Fuse Trigger Signal LSD Input [Battery 2]	In	6 (< 2ms)
J2-18	SERIES_SWITCH_AUX_POWER	Series Switch Aux 12V (VCC) Power	12V Out	0.005
J2-19	TEMP_SENS-1_ANA	TEMP1 (cooling temperature sensor 1 - inlet)	In	0.005
J2-20	TEMP_SENS-1-2_RET	TEMP1/2 Return		0.005
J2-21	PRESSURE_SENSOR_REQUEST	Pressure Sensor WakeUp - Out [Request]	Out	0.005
J2-22	SCAN_H	Service CAN High	In/Out	0.1
J2-23	DCAN_H	Diagnostic CAN High [DCAN_H]	In/Out	0.1
J2-24	BREAKTOR-2_ENA	[Breaktor 2] 5V Enable (Switch Command)	In	0.005
J2-25	SERIES_SWITCH_AUX_GND	Series Switch Aux GND	In	0.01
J2-26	VCAN_H	Vehicle CAN High (Primary) [CANFD11_H]	In/Out	0.1
J2-27	VCAN_L	Vehicle CAN Low (Primary) [CANFD11_L]	In/Out	0.1
J2-28	FSCAN_H	Vehicle CAN High (Secondary) [CANFD5_H]	In/Out	0.1
J2-29	FSCAN_L	Vehicle CAN Low (Secondary) [CANFD5_L]	In/Out	0.1
J2-30	BREAKTOR-2_VDD12V_1	[Breaktor 2] 12V HSD (High-Current Coil Supply)	Out	11.8 (<130ms)
J2-31	VSS_2	[Breaktor 2] Coil VSS		11.9 (<130ms)

J2-32	BREAKTOR-3_VDD12V_1	DCFC [Breaktor 3] 12V HSD (High-Current Coil Supply)	Out	11.8 (<130ms)
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Connector J3 Pinout				
Pin No.	Pin Name	Definition	Type	Max Current (A)
J3-1	GNDA [HV_NEG]	HV_NEG (PACK Negative relay inside)		0.1
J3-2	AI_HV_VF	HV_VF (PDC fuse outside, F1, PDC)	In	0.01
J3-3	AI_HV_U00	HV_U00 (Battery 1 -)	In	0.01
J3-4	AI_HV_U1	HV_U1 (Battery 2 +)		0.1
J3-5	AI_HV_VB	HV_VB (Load Bus +)	In	0.01
J3-6	AI_HV_VC	HV_VC (EDM B fuse outside, F3, EDM B → Rr)	In	0.01

Connector J4 Pinout				
Pin No.	Pin Name	Definition	Type	Max Current (A)
J4-1	AI_HV_VA	HV_VA (Battery 1 +)	In	0.01
J4-2	AI_HV_VG	HV_VG (Load Bus -)	In	0.01
J4-3	AI_HV_VE	HV_VE (DCFC -)	In	0.01
J4-4	AI_HV_VJ	HV_VJ (DCFC +)	In	0.01
J4-5	AI_HV_VB	HV_VB (Load Bus +)	In	0.01
J4-6	AI_HV_VD	HV_VD (EDM A fuse outside, F2, EDM A → Fr)	In	0.01

The following information shall also be included in the case of radio equipment intentionally emitting radio waves:

- Frequency band: 2.405 – 2.480 GHz
- Maximum radio-frequency power transmitted in the frequency band(s) in which the radio equipment operates.
- Max output power = 8 dBm

(U.S.A. and Canada)

FCC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) The device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF exposure safety

This device complies with the FCC RF exposure limits and has been evaluated in compliance with portable exposure conditions.

The equipment must be installed and operated and was evaluated with minimum distance of 20 cm of the human body. This distance or greater is maintained by vehicle design and ensures compliance by normal use of the vehicle.

For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.*
- Increase the separation between the equipment and receiver.*
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- Consult the dealer or an experienced radio/TV technician for help.*

ISED CANADA

This device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and*
- (2) The device must accept any interference received, including interference that may cause undesired operation.*

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et,*
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF exposure safety

This device complies with the RF exposure limits and has been evaluated in compliance with portable exposure conditions.

The equipment must be installed and operated and was evaluated with minimum distance of 20 cm of the human body. This distance or greater is maintained by vehicle design and ensures compliance by normal use of the vehicle.

CAN ICES-003(B)

Les changements ou modifications non expressément approuvés par la partie responsable de la conformité peuvent annuler le droit de l'utilisateur à utiliser l'équipement.

Sécurité d'exposition aux RF

Cet appareil est conforme aux limites d'exposition RF d'ISED et a été évalué conformément aux conditions d'exposition portable.

L'équipement doit être installé et utilisé à une distance minimale de 20 cm du corps humain. Cette distance ou plus est maintenue par la conception du véhicule et assure la conformité par l'utilisation normale du véhicule.

CAN NMB-003(B)

Cet appareil numérique de classe B est conforme à la norme canadienne NMB-003.

Part 15 – Interference Statement (On Part and in Owners Manual, or in Owners Manual)

NOTE: When the device is so small or for such use that it is not practicable to place the Interference Statement on it (e.g. TPMS), the below statement shall be placed in the Owners Manual:

"This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation."

Interference Statement (On Part and in Owners Manual, or in Owners Manual)

Licence-exempt radio apparatus shall contain the following or equivalent notice in a conspicuous location in the user manual or alternatively on the device or both.

This device complies with Innovation, Science, and Economic Development Canada (ISED) licence-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device

Homologation by  IFT ABCDEF23-123456

Certification By: NYCE



'La operación de este equipo está sujeta a las siguientes dos condiciones:

(1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada'.

a) Lea el Manual antes de operar o usar el Equipo.

b) Información de importador:

Nombre: Stellantis Mexico S.A. de C.V.

Dirección: Av. Prolongación Paseo de la Reforma 1240, Santa Fe Cuajimalpa, Cuajimalpa de Morelos, Ciudad de México, 05348.

Contacto: Osbahal Miguel Mascarua Bañuelos

Correo: miguel.mascarua@stellantis.com

Teléfono: +52 554-350-1487

c) Marca: Visteon Corporation / Nombre del Modelo: BPCMSW

d) El BPCMSW es instalado dentro del Battery Pack, por lo tanto, el usuario final no tiene interacción directa con el producto.

e) Especificaciones Eléctricas:

Tensión de alimentación: 13.5 Vcc

Corriente de alimentación: 0.6 A

Frecuencia: 2.4 GHz

Potencia: 8.1 W