MTU Application Letter
C&I + Agriculture

Application Letter EIE, C&I + Agriculture

2018-043 *Friedrichshafen, November 2018*

Application Engineering C&I + Agriculture

Notification of Change

Dear Customer,

we have been informed by Daimler about the following change:

The start of series introduction of the **CPC4-ECAN** control units for OFF-Highway engine models has been **determined to February 1st, 2019.**
The control units ADM2 and ADM3 will be only delivered until the end of February 2019.

Please find attached further preliminary information regarding the pin-assignment of diagnosis connector incl. wiring diagram. In case of further changes we will inform you as soon as possible.

Hint: Please open this notification with the Adobe PDF Reader for correct display.

Kind regards

Construction & Agriculture Engineering
Maybachplatz 1
88045 Friedrichshafen

Daimler
Aggregates-Enginesystems

Modification Note 2018-E012

Dear Customer,

within the notification of change 2018-E010 you have been informed about postponement of series introduction of the CPC4-ECAN.

The start of series introduction of the **CPC4-ECAN** control units for OFF-Highway engine models has been **determined to February 1st, 2019.**
The control units **ADM2 and ADM3** will be only delivered until the **end of February 2019**.

The following engine models are affected by the change:

OFF-Highway

OM 457	OM 460	OM 904 LA	OM 906 LA	OM 924 LA	OM 926 LA
D458.970	D458.990 D458.991 D458.992 D460.953	D904.946 D904.947 D904.971 D904.975	D906.949 D906.950 D906.991	D924.932 D924.934 D924.936 D924.937 D924.941 D924.942	D926.915 D926.929 D926.959 D926.970 D926.971 D926.972 D926.985 D926.986

Not affected by the conversion to CPC4-ECAN are series 500 and M906LAG.

In the notification of change 2018-E008 the adapter cable was specified with the partnumber A 005 540 14 05.
This Partnumber is no longer valid and has been replaced by **A 005 540 32 05**.

Adapter cable	Partnumber old	Partnumber new
	A 005 540 14 05	**A 005 540 32 05**

Note

If the wiring harness is changed or the adapter cable is not used, new connectors must be used for the control unit CPC4-ECAN. Please refer to CPC4-ECAN manual page 21.

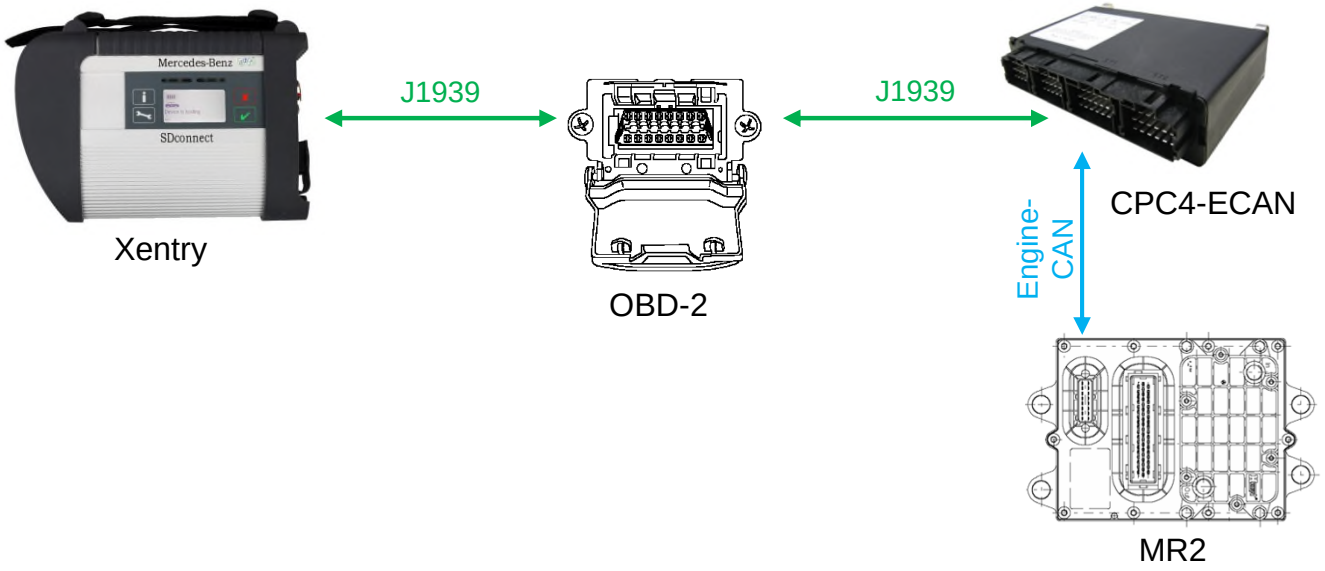
Diagnostic connector

Classic engines with MR2 and CPC4-ECAN

TSAT - System Engineering E/E

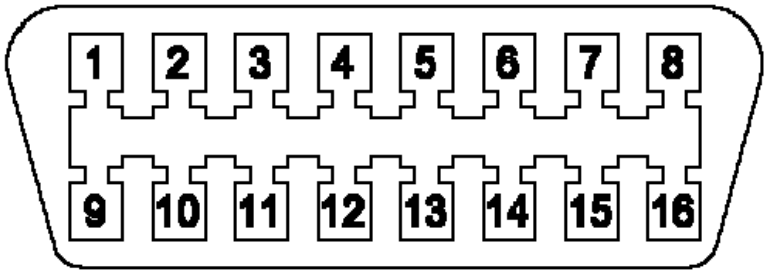
Diagnosis via Xentry-DAS
General information

- Diagnosis of the CPC4-ECAN via Xentry-DAS is only supported via CAN-bus (and not via K-Line).
- Diagnosis of the MR2 can also be done via the CAN-bus (the CPC4-ECAN will be used as a ‘gateway’)
- CAN-bus communication / diagnosis with Xentry-DAS via the 14-pin diagnostic connector from the classic engines is not supported.



Pin-assignment
OBD-2 Diagnostic connector (16-pin)

Pin	Function
1	--
2	--
3	--
4	Terminal 31 (GND)
5	Terminal 31 (GND) or CAN-GND
6	SAE J1939 CAN-High *)
7	--
8	Terminal 15 (IGNITION)
9	--
10	--
11	--
12	SAE J1939 CAN-High *)
13	SAE J1939 CAN-Low *)
14	SAE J1939 CAN-Low *)
15	--
16	Terminal 30 (+12V / +24V)



Diagnostic connector front view

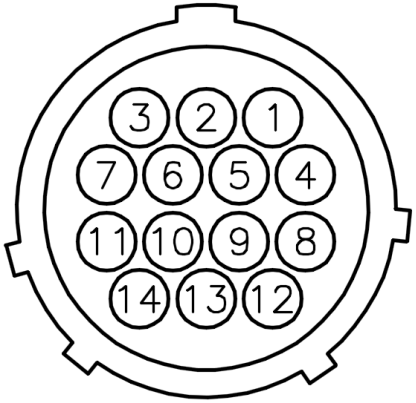
*) For the CAN-connection (to the CPC4-ECAN) only two pin-assignments are needed:

- Pin 6 and Pin 14 (recommended) **or**
- Pin 12 and Pin 13

Note:
Diagnosis with Xentry via pin 6 and pin 14 is not yet available, but the implemention is planned until Q1/2019.

Pin-assignment
Diagnostic connector Classic-engines (14-pin)

Pin	Function
1	Terminal 31 (GND)
2	Terminal 15 (IGNITION)
3	Terminal 30 (+12V / +24V)
4	K-Line FLA
5	K-Line MR2
6	--
7	--
8	--
9	--
10	--
11	--
12	--
13	--
14	K-Line ADM



Diagnostic connector
front view

Note:
Diagnosis of the CPC4-ECAN with Xentry via the 14-pin diagnostic connector is not supported.

KL31 (GND)
KL30 (+24V)
KL15 (Ignition ON)

-S2
Engine start
(KL50)

-F1
5A

-F2
10A

-F3
5A

-F4
10A

Vehicle / Powerpack
OEM-CAN
- J1939 Dashboard
- ABS
- Transmission
- ECU's
- ...

CAN-H
CAN-GND
CAN-L
120 Ω
CAN SAE J1939

GND
GND
KL15
CAN-H
CAN-L
KL30
4 5 8 6 14 16
X100
16-pin
OBD2
Diagnostic connector

CAN SAE J1939
max. length: 2 m
Cross-section: 0,75...1,0 mm²

CAN-Bus for
SCR frame module
(only for EU 3B / Tier 4i
engines with MR2B)

Engine CAN-Bus (low-speed)
max. length 15 m

Star-quad cable
Stranding factor: 20/m
Cable cross-section: 1 mm²
CAN-H
CAN-L
CAN-GND

1.0 mm² | 2.5 mm² 2.5 mm² | 2.5 mm² 2.5 mm² | 1.0 mm²

-A1.X1
16-pin
7 14 16 10 13 8 9 11 5 6 15 1 3 4 2
CAN-H
HF-GND
HF-GND
CAN-L
K-Line
KL50 Input
KL31
KL31
KL30
KL30
KL15
CAN-H
HF-GND
HF-GND
CAN-L

-A1
MR2 engine control unit

1.0 mm² | 1.5 mm² 1.5 mm² 1.0 mm²

-A3.X1
ST1
18
KL50 Input

-A3.X2
ST2
1 2 3 18 17 16
KL30
KL31
KL15
J1939 CAN-H
J1939 CAN-GND
J1939 CAN-L

-A3.X4
ST4
1 2 3
ECAN-L
ECAN-GND
ECAN-H

-A3
CPC4-ECAN

Detailed pin-assignment see CPC4-ECAN operating manual

Circuit diagram with MR2 and CPC4-ECAN for engine series 0M460 / 0M500 / 0M900

Aenderungsbeschreibung/Description of revision	--	kommt vor/Frequency	.
Buchst./Rev.Ltr.	-.1	Aenderungs-Nr./Revision Notice No.	PR034194
Bearbeitungsstatus/Lifecycle	Released		

Passmass Fit | Abmass in Deviation µm

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MTU Friedrichshafen GmbH

Allgemeintoleranzen / General Tolerances ISO 2768-mK	Massstab/Scale	1:1
Toleranzring / Tolerancing ISO 8015	Masse / Size ISO 14405	Masse/Mass kg ----
Ausfuehrung u. Lieferung Tech. Characteristics ----	Oberflaechenangaben nach MTN5033	Format/Size A1
Oberflaechenschutz Surface Protection ----	Surface Specification per MTN5033	Werkstoff Material ----------
Verwendbar fuer Typ Applicable to Model ----	Allgemeine Fertigungs-vorschriften nach MAN 332	Halbzeug,Modell,Gesenk Semifinished Product, Pattern,Die ----
Projekt-/Auftrags-Nr. Project/Order No. ----	Production Specification per MAN 332	Material-Nr./Material-No. XZ00E00000102
Referenz-Nr./Ref.No. ----	Emission ID ----	

	Datum/Date	Name
ACAD		
Ersteller Drawn	10.08.2018	sabolic ch
Bearb. Change	27.09.2018	sabolic ch
Norm. Std.	27.09.2018	luidl mark
Gepr. Checked	27.09.2018	luidl mark

Benennung/Title SM Schematics
SCHALTPLAN
FUER VERKABELUNG ----
DIAGRAM
FOR CABLE RUNNING ----

Zeichnungs-Nr./Drawing No. CAD02766093
Beschreibung/Description ----
Blatt Sheet 1/1