

Vehicle does not start - internal fault in power electronics

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| Topic number | LI08.30-P-057146 |
| Version | 1 |
| Design group | 08.30 Hybrid drive system |
| Date | 08-21-2013 |
| Validity | MODEL 212.09/19 with ENGINE 276.9 (E400 hybrid) MODEL 212.09/29 with ENGINE 651.9 (E300 hybrid) |
| Reason for change | |
| Reason for block | |

Complaint:

The vehicle cannot be started or the message "Service Required - Do not perform further ignition cycle" appears in the instrument cluster while the vehicle is in operation.

Sometimes the "Ready" status indicator does not change from "yellow" to "green".

Cause:

The cause is an internal defect at the power electronics control unit (N129/1) with different possible fault codes (see specification of control unit/FC)

Remedy:

Please create PTSS case with the symptom: Power Generation / Engine Management / Nonfunctional and title "Power electronics - internal defect".

Please attach to the case:

- 1) Short Test
- 2) Control unit log of power electronics control unit (SG-EM)
- 3) Actual values of power electronics control unit (SG-EM)

Further measures will be specified on a case by case basis.

| Symptoms |
|---|
| Overall vehicle / Power supply / Alternator / Alternator function / Does not charge |
| Overall vehicle / Power supply / Battery/On-board electrical system / Battery/on-board electrical system indicator lamp / Battery charge indicator/consumer shutoff / Illuminates red |
| Overall vehicle / Power supply / Battery/On-board electrical system / Battery/on-board electrical system indicator lamp / Battery charge indicator/consumer shutoff / Illuminates white |
| Power generation / Engine management / Engine management indicator lamp / Engine diagnosis / lit |
| Overall vehicle / Power supply / Battery/On-board electrical system / Battery function / Battery cannot be charged |
| Power generation / Engine management / Engine start/stop / Does not start |
| Power generation / Engine management / Engine performance / No/poor output |
| Power generation / Engine management / Engine management indicator lamp / READY indicator / Illuminates yellow |
| Power generation / Engine management / Engine management indicator lamp / READY indicator / Does not illuminate |
| Power generation / Engine management / Electric drive / Nonfunctional |

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| Power generation / Engine management / Regenerative braking / Nonfunctional |
| Overall vehicle / Power supply / High-voltage on-board electrical system battery / Nonfunctional |
| Overall vehicle / Power supply / High-voltage on-board electrical system battery / Display message |

| Control unit/fault code | | |
|---|------------|--|
| Control unit | Fault code | Fault text |
| CDI - Motor electronics 'CDID3' for combustion engine 'OM651' (N3/9) (CRD3) | U059308 | Implausible data were received from control unit "Electric machine B". There is a signal fault or the message is faulty. |
| SG-EM - Power electronics (N129/1) (LE_TUBE) | P0A3300 | Temperature sensor 'Electric machine B' has a short circuit to positive. |
| SG-EM - Power electronics (N129/1) (LE_TUBE) | P0A4600 | Position sensor 'Electric machine B' has a malfunction. |
| SG-EM - Power electronics (N129/1) (LE_TUBE) | P0A7900 | Inverter 'Electric machine B' has a malfunction. |
| SG-EM - Power electronics (N129/1) (LE_TUBE) | P0A8B00 | The control unit 'DC/DC converter' has a malfunction. |
| SG-EM - Power electronics (N129/1) (LE_TUBE) | P0A8700 | Current sensor A of the DC/DC converter has a malfunction. |
| SG-EM - Power electronics (N129/1) (LE_TUBE) | P0A9400 | The control unit 'DC/DC converter' has a malfunction. |
| CDI - Motor electronics 'CDID3' for combustion engine 'OM651' (N3/9) (CRD3) | U029287 | Communication with control unit "Electric machine B" has a malfunction. The message is missing. |
| CDI - Motor electronics 'CDID3' for combustion engine 'OM651' (N3/9) (CRD3) | U029887 | Communication with control unit "DC/DC converter" has a malfunction. The message is missing. |
| SG-EM - Power electronics (N129/1) (LE_TUBE) | P0A0C00 | The interlock circuit of the high-voltage on-board electrical system has a short circuit to ground. |
| SG-EM - Power electronics (N129/1) (LE_TUBE) | P0A0E00 | The interlock circuit of the high-voltage on-board electrical system has a sporadic malfunction. |
| SG-EM - Power electronics (N129/1) (LE_TUBE) | P0A0D00 | The interlock circuit of the high-voltage on-board electrical system has a short circuit to positive. |
| SG-EM - Power electronics (N129/1) (LE_TUBE) | P0A0B00 | The interlock circuit of the high-voltage on-board electrical system has a malfunction. |
| SG-EM - Power electronics (N129/1) (LE_TUBE) | P0A3200 | Temperature sensor 'Electric machine B' has a short circuit to ground. |
| SG-EM - Power electronics (N129/1) (LE_TUBE) | P0A3100 | Temperature sensor 'Electric machine B' has a malfunction. |

| Parts | | | | | | | |
|-----------------|-----|-----|--------------------------------|----------|---------------------------------------|-----|-----------------|
| Part number | ES1 | ES2 | Designation | Quantity | Note | EPC | Other make part |
| A 276 900 05 01 | | | Power electronics control unit | 1 | For MODEL 212.09/19 with ENGINE 276.9 | X | |

| Validity | | |
|----------|--------|--------------|
| Vehicle | Engine | Transmission |
| 212.095 | * | * |
| 212.098 | * | * |
| 212.195 | * | * |
| 212.298 | * | * |