

DPU Troubleshooting Aid for GE Locomotives

EXPLANATION OF THE CARDS AND PROBLEMS THEY MAY CAUSE

#3 – CPU

Controls everything

Fail light on console

Invalid data on the console (on boot up)

Air brake problems

Link failure

BC on remote won't go to 0 with bad CPU card in leader

CPU connector disconnected can cause unit not to link as a remote

Problems selecting between A and B radio

No TX or RX from both radios

#6 – AIR BRAKE

Controls EAB to CPU and CCC communications

Fail light on console

No communication with air brake or no air brake data in DP

Possibly IBA loopback error

#7 – COMMUNICATIONS

Controls radio communication signals and loco number

No link

Make sure thumbwheels have correct unit number

Any type of miss-compare

Any problem that #3 or #6 card can cause

Fail light on console

#8 – INPUT/OUTPUT

Handles trainline inputs: throttle readings, DB excitation, amperage

Fail light

Any type of miss-compare

DBC excitation error

8K or great tractive effort at idle card is bad

RELAY DRIVER

EMV2 valve fails

Direction mis-compare as remote

Any remote traction or train line type problems

Won't link as a remote

ANA fail lights

DIR NONE

Controls all of the A, B, C, D, GF, sand, DB, alarms, direction control/feedback and so on

It is paired with the #8 I/O card for most of its functions

It performs logic conversions and voltage changes to drive the relays mentioned above that are located on the back wall behind the bottom door on a locotrol 3

ANALOG/BINARY (READER)

Has a failure mode like the relay driver as lead DP unit

BIN fail

DIR NONE

Processes the signals for logic from and to the GE side of things

It converts Amperage and throttle positions and DB feedback

Drives DB output to the GE side of things

It is also paired with the #8 card on most functions

A5 – ANALOG DRIVER (DB ONLY)

DB miscompares

Can cause electric or relay breaker to trip

DIAGNOSTIC BOARD (LED BOARD)

Causes unit not to link as remote

Check by putting PTU on monitor mode and verify loco number

Can cause problems as lead in some cases

THUMBWHEELS

No link lead or remote

Communication loss problems

Check connector on side of setup module

Put PTU on monitor and verify loco number

CONSOLE FAIL LIGHT

All DP cards can cause this

CCC4 on the CCC (EPIC) will cause fail light to display b not seeing “remote control emergency” message when in emergency

Check local control breaker is fail light on

Check for broken pin on data cable in console

Console could be bad if fail light is on after a 2 min. reboot, you will also see invalid data

FLASHING FAIL

Fail light but no key control then locotrol side

If you can link and then get flashing then there is air brake problem or locomotive problems

MESSAGING

“EMER BV” check conductors handle or auto brake valve

“B-TRAIN SEPERATION” check 30-50 cars from remote

“A-TRAIN SEPERATION” check rst of the train

SOME INFORMATION FROM PEOPLE WORKING ON THEM

- CTE and FTE miss-compares are caused by TL18 & TL19 mismatch, could be the relay driver, the analog binary, or a locomotive issue
- Ind brakes won't release on remote, replace #3 card
- Control console shows load at all times, replace #3 pr #8 card
- Brake warning while in DP, cleaned snow from 27 pin receptacle
- If EB fail light is on; check E graces wit PC, probably E-brake side
- EQR loopback error: Replace EPIC BPCP
- IBA loopback error: make sure air is set to lead cut-in
- Console show 1K TE all the time; replace traction motor current isolation board (SP)
- EB fail light in system module; replace EIPC CCC
- DB not working properly in DP; replaced analog board (A5)
- Remote moves wrong way; check both units lead/opposite switch
- Neg / Pos volt. Power supply failure; #3 or #8 card or power supply
- Console has no response from buttons; #3 card or console
- No link as a remote OK as leader; replace diagnostic board
- No link as a remote OK as leader; replace thumbwheel switch (S3)
- No link as a leader OK as remote; freq. Wires 1 & 4 reversed
- Unit links only by changing unit number; replace thumbwheel switch (S3)
- Always check radio and antenna connections
- Wattmeter radios and antennas when you can't link

- Unit won't link; replace #3 or #7 card
- Emergency after full service; replace BCCP
- Emergency won't reset in DP mode; replace relay driver board
- Going into emergency while running BP test in DP; replace BCCP
- PC won't reset in DP; replace EPIC LIU
- Emergency when moving handles; change handles
- Remote penalty would not reset; replace EPIC CCC
- Fail EP train check / leakage test; replace BPCP
- BP & ER press jumping; replace BPCP or left transducer
- FL-1 failure on console; replace right transducer on appropriate unit
- FL-2 failure on console; replace left transducer on appropriate unit
- No flow from remote; remotes right transducer, check train line valves
- Transducer failure; check "D" plug on transducer
- No load on remote in reverse; replace relay driver board
- Emergency won't reset in DP mode; replace relay driver board
- Unit won't not come out of TH1; replace relay driver board
- Throttle mismatch between unit and console; relay driver board
- Console shows load all the time; B/A/board
- No TE (AMPS) shown on console; B/A board
- Miscompare or throttle sticking; B/A board
- Binary fail light on; B/A board
- Unit dies going from TH6 to idle; B/A board

THIS DOES NOT COVER ALL THE PROBLEMS, YOU COULD SEE LOCATE DP TROUBLESHOOTING GUIDE FOR MORE ANSWERS