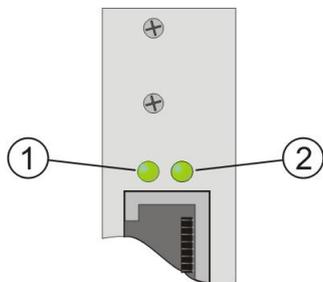


I/O Modules

Each I/O Module has two LEDs. The meaning of the LEDs is the same on each I/O Module. The LEDs are mounted above the RJ45 port.

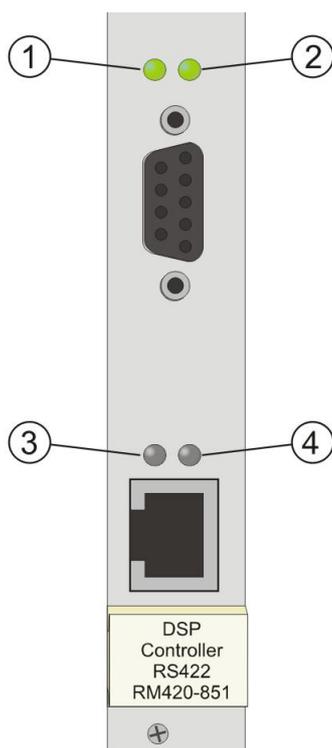


1. The left LED lights up when the module is supplied with the operating voltage of 5 V and when it is ready for operation.
2. The right LED flashes in rapid sequence when the DSP Controller of the backplane (slot 9, RM420-851) started without failure and detected the I/O module correctly. The flashing of the right LED on the I/O modules is sequential from the left to the right. The speed of the sequence depends on the computing load of the DSP controller and may vary.

When the LED on the right is flashing very slowly, the DSP controller hasn't detected the I/O module correctly. This only happens, if an I/O module isn't integrated into the firmware or has not yet been in operation.

DSP Controller RM420-851

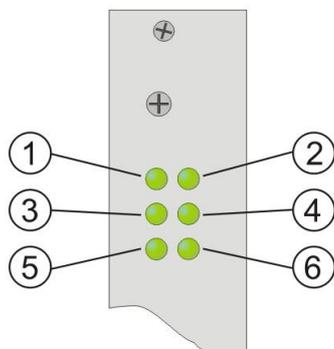
Each DSP Control module has four LEDs, two in the upper half, and two in the lower half.



1. The left LED lights up when the module is supplied with the operating voltage of 5 V and when it is ready for operation.
2. The right LED flashes in rapid sequence, started without failure.
3. no function
4. no function

DSP Module RM420-848L, RM420-848M

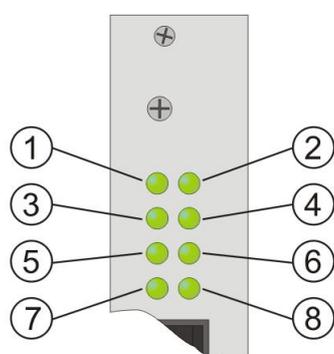
Each DSP module has six LEDs.



1. The LED lights up when the module is supplied with the operating voltage of 5 V and when it is ready for operation.
2. The LED flashes in rapid sequence when the DSP Controller of the backplane (slot 9, RM420-851) started without failure and detected the DSP module correctly. The flashing of the LED is sequential from the left to the right over all modules. The speed of the sequence depends on the computing load of the DSP controller and may vary.
3. The LED lights up when DSP 1 booted correctly and is ready for operation.
4. The LED lights up when DSP 2 booted correctly and is ready for operation.
5. The LED lights up when DSP 3 booted correctly and is ready for operation.
6. no function

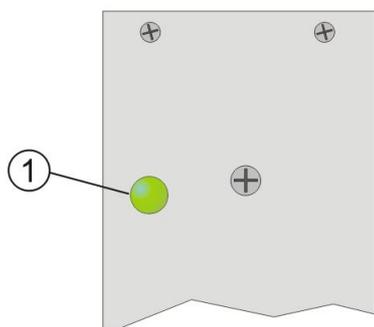
DSP Module RM420-848M + RM420-421, 422 MADI submodule

Each DSP module with MADI submodule has 8 LEDs.



1. The LED lights up when the module is supplied with the operating voltage of 5 V and when it is ready for operation.
2. The LED flashes in rapid sequence when the DSP Controller of the backplane (slot 9, RM420-851) started without failure and detected the DSP module correctly. The flashing of the LED is sequential from the left to the right over all modules. The speed of the sequence depends on the computing load of the DSP controller and may vary. .
3. The LED lights up when DSP 1 booted correctly and is ready for operation.
4. The LED lights up when DSP 2 booted correctly and is ready for operation.
5. The LED lights up when DSP 3 booted correctly and is ready for operation.
6. no function
7. The LED lights up when MADI port 1 is active.
8. The LED lights up when MADI port 2 is active (only for RM420-422 Dual MADI submodule).

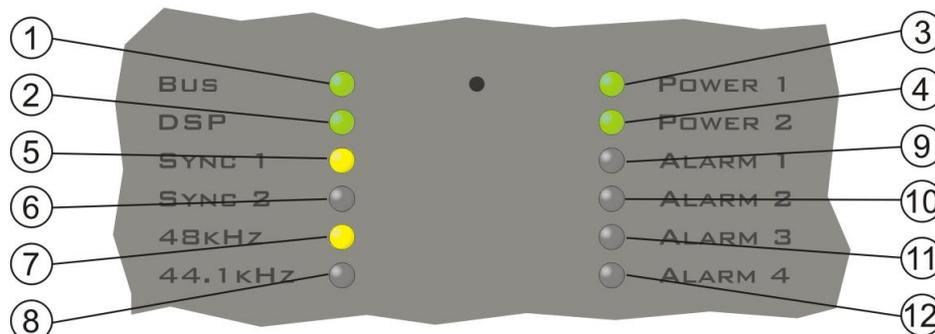
Power Supply RM420-083



1. The left LED lights up when the module is supplied with the input voltage (94 - 253 VAC) and when it is ready for operation. The LED turns off when there is no input voltage available or the power supply itself is defective.

DSP Frames - Frontpanel

The LEDs at the front of the DSP frames RM420-061, RM420-062, RM420-063 and RM420-064 show the main information about the system state.



The LEDs are controlled by the RM420-852/853 Communication Controller. If this module is not ready for operation after system reboot, the state of the LEDs are not showing the real system state. When the communication controller is ready for operation, the following meanings belong to the LEDs:

1. BUS (green, flashing): The CAN bus is ready for operation and working without failure.
2. DSP (green): All DSPs in the system are ready for operation and working without failure.
3. POWER 1 (green): The DSP frame is supplied with the operating voltage of 5 V.
4. POWER 2 (green): Control modules are connected to the DSP frame.
5. SYNC 1 (yellow): The system is synchronised to the sync source 1, set in the Toolbox5 Config file.
6. SYNC 2 (yellow): The system is synchronised by the sync source 2, set in the Toolbox5 Config file.

If both of the SYNC-LEDs are off, the system neither is synchronised to sync source 1 nor to sync source 2. In case of that, the system is using the internal sync source.

The LEDs SYNC 1 and SYNC 2 are never active at the same time.

7. 48 kHz (yellow): The system is synchronised to 48 kHz (measured value, 48 kHz +/- 500 Hz)
8. 44.1 kHz (yellow): The system is synchronised to 44.1 kHz (measured value, 44.1 kHz +/- 500 Hz)

The LEDs 48 kHz and 44.1 kHz are never active at the same time. In case of a synchronisation to a varispeed sync source with a frequency out of measuring range (see number 7 and number 8), none of the two LEDs are lit.

9. ALARM 1 (red): One of the power supplies in the DSP frame is defective.
10. ALARM 2 (red): The power fail slave is active. (power fail cable has to be connected to the RJ45 port of the mains power module to detect power fail slave)
11. ALARM 3 (red): Internal temperature exceeds the critical level of 65°C / 149°F (since FW 6.7.3)
12. ALARM 4 (red): no function