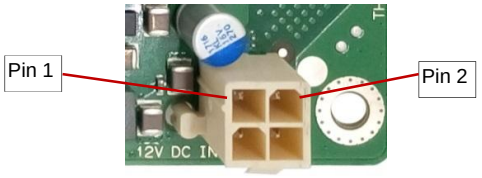
D3674-B_Power Supply

Internal Power Supply Connector (12V)

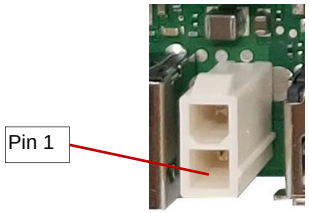
Pin	Signal
1	GND
3	+ 12V

Pin	Signal
2	GND
4	+12V



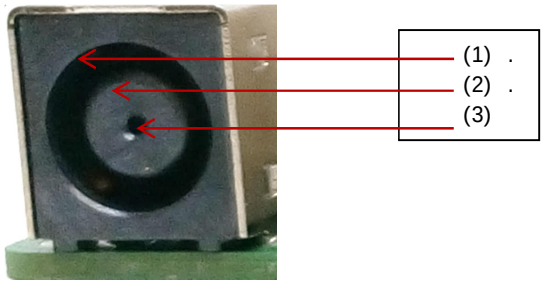
Internal Power Supply Connector (19-24V)

Pin	Signal
1	GND
2	19V - 24V



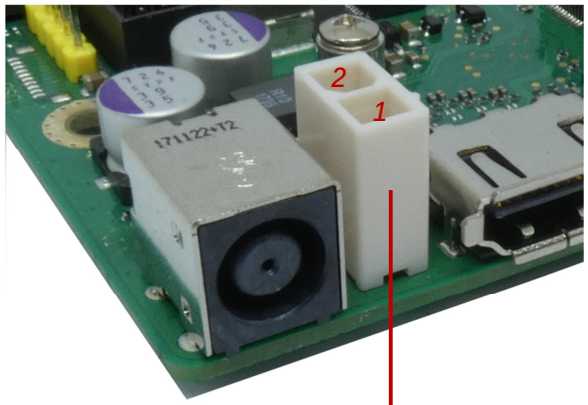
External Power Supply Connector (19-24V)

Pin	Signal
1	GND (Ø 7.5mm)
2	19V - 24V
3	Not connected



D3674-B_Power Supply

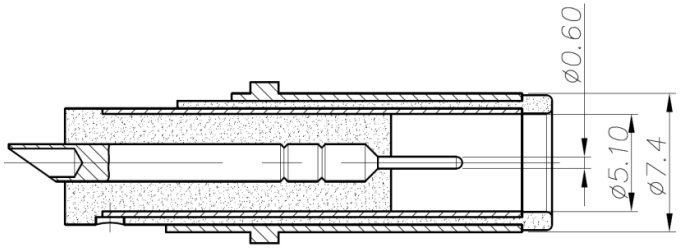
19-24V External & Internal Power Supply Connector



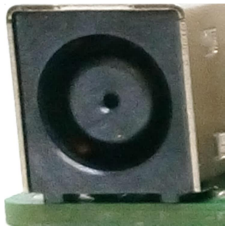
Pin 1: GND
Pin 2: DC In

Internal and external DC input can be powered by 19-24V (+10% / -15%).
Internal and external DC input must never be powered simultaneously!
Note: Power plug must only be attached to D3674-B while the external power source it switched off!

Recommended plug for external AC adapter:



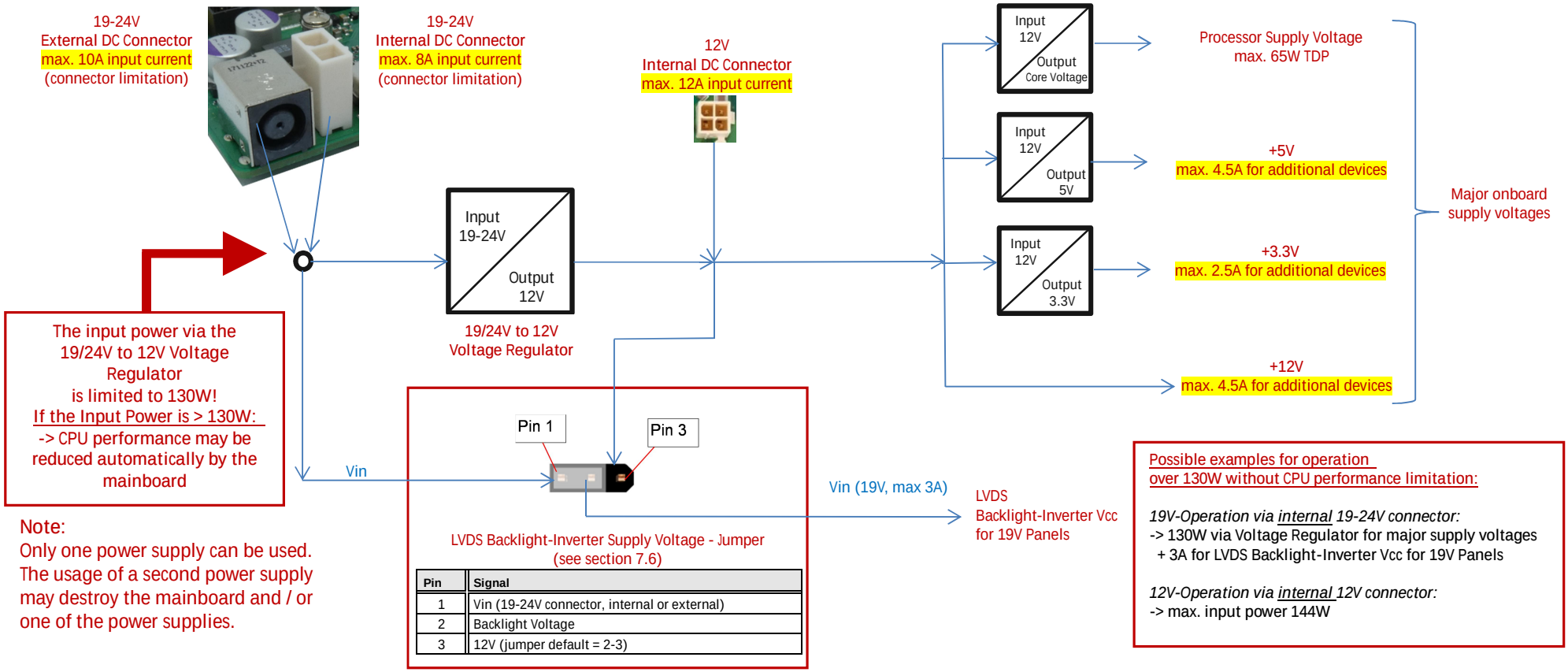
MATING PLUG: OD ø7.4 ; ID ø0.6
Tolerance:±0.05



D3674-B_Power Supply

Requirements for 12V / 19-24V Operation

Simplified functional diagram for major onboard voltage converters



Pin	Signal
1	Vin (19-24V connector, internal or external)
2	Backlight Voltage
3	12V (jumper default = 2-3)

Note:
Only one power supply can be used.
The usage of a second power supply may destroy the mainboard and / or one of the power supplies.

Possible examples for operation over 130W without CPU performance limitation:

19V-Operation via internal 19-24V connector:
-> 130W via Voltage Regulator for major supply voltages
+ 3A for LVDS Backlight-Inverter Vcc for 19V Panels

12V-Operation via internal 12V connector:
-> max. input power 144W

D3674-B_Power Supply

Requirements for 12V / 19-24V Operation

Requirements for DC operation

Nominal operating range 12V or 19 - 24V
Max. operating range 12V [+/- 10%] or
19 - 24V [+ 10% / - 15%]
Ripple / noise max. 400mV (PP)
Max. input current (19-24V): 10A (external)
Max. input current (19-24V): 8A (internal)
Max. input current (12V): 12A (internal)
DC power supply input provides
a capacitive load of 200µF(19-24V Input)
and 1000µF(12V Input) which has to be
covered by the AC adapter respectively the
DC source during power ramp-up.

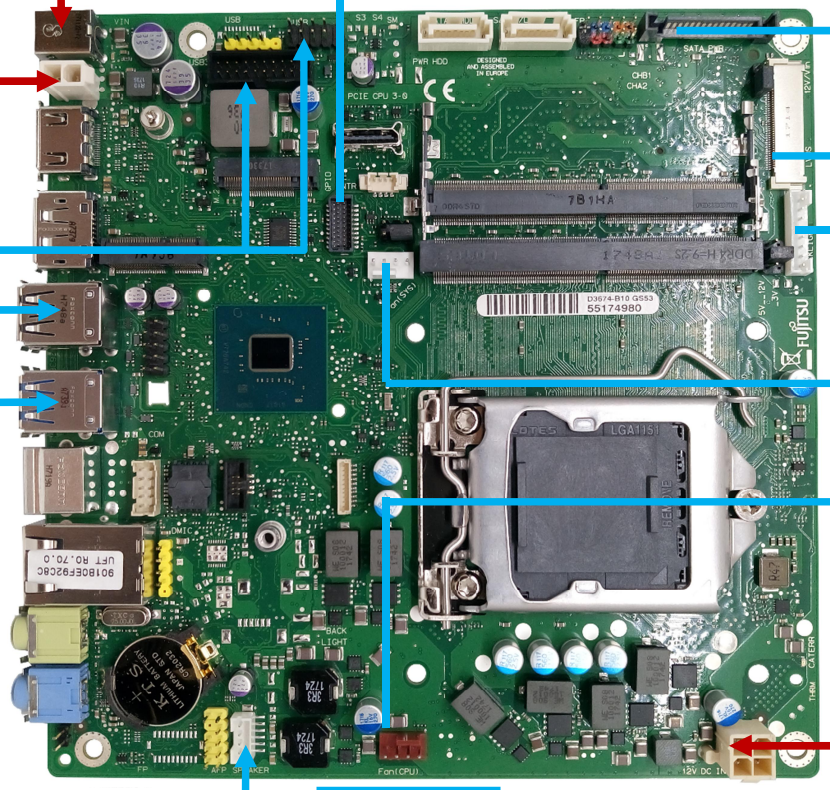
Limited mainboard output current:

The max. mainboard output power
available via M.2 connector (Key E + Key M), fan-connectors, USB-connectors, GPI/O, LVDS/backlight-connector, and drive power connector is limited!
Max. overall output current for each voltage:

+3.3V / 2.5A
+5V / 4.5A
+12V / 4.5A

D3674-B_Power Supply

Maximal Ratings Overview



External DC Connector
19 - 24V / max. 10A
Max. operating range[+ 10% - 15%]

Mainboard Input Power
is limited to approx. 130W!

Internal DC Connector
19 - 24V / max. 8A
Max. operating range[+ 10% - 15%]

USB
USB3.1 Gen1 per port max. 900mA
USB2.0 per port max. 500mA

GPIO
+3,3V / 1A, +5V / 1A, +12V / 1A

Drive Power
+5V / 2,5A ; +12V / 1A; 3,3V / 0,5A

LVDS
Panel: +5V / 1,5A, +12V / 1,5A, +3,3V / 1,5A
Backlight: +12V /2 A, +19V / 2A

Fan2
+12V / max. 1,2A continuous

Fan1
+12V / max. 2A continuous

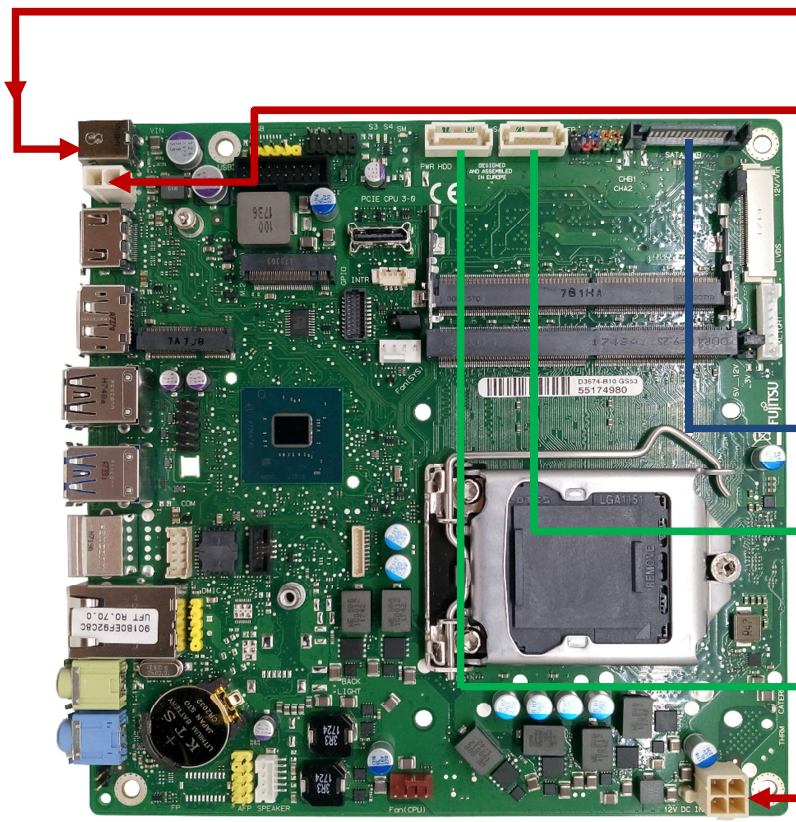
Internal DC Connector
+12V / max. 12A
Max. operating range [+/- 10%]

Speaker
2W/4 ohm

Red = Input
BLUE = Output

D3674-B_Power Supply

Power Option for Internal Devices



Green = data
BLUE = power

19-24V
Supply
(internal)

19-24V AC
Adapter
(external)

Note:
Only one power supply can be used. The usage of a second power supply may destroy the mainboard and / or one of the power supplies.

Drive Power
Connector

optional:
SATA CD/DVD

Max. rating via Drive Power Connector: +5V/2,5A ; +12V/1A

2.5” HDD

12V
Supply
(internal)

D3674-B_Power Supply

Typcial Power Consumption

Configuration:
Mainboard D3674-B
MS Windows 10-64
External AC Adapter (19V DC)
M.2 PCIe based SSD
USB Kbd / USB mouse
Processor/memory see below

Configuration	Application	PSU Input Load (@230V)
i5-8600T 35W TDP 1 x 8GB	Win10 Idle	~ 9W
	100% CPU Load	~ 62W
	FTS MemTest	~ 45W
i5-8600 65W TDP 1 x 8GB	Win10 Idle	~ 9W
	100% CPU Load	~ 110W
	FTS MemTest	~ 45W

Note: Approximate values - for customer reference only!

For 12V DC operation the input power is quite similar.