

3.5 Power Supply

The power supply of the MC55i Terminal has to be a single voltage source of $V_{PLUS}=8V...30V$ capable of providing a peak current (pulsed $2 \times 577ms$ at $T=4.615ms$) of about 1.2A at 12V during an active transmission. The uplink burst causes strong ripple (drop) on the power lines. The drop voltage should not exceed 1V, but the absolute minimum voltage during drops must be $>7.6V$.

The MC55i Terminal is protected from supply voltage reversal and overvoltage. An internal fuse that is not removable is intended for electrical safety according to EN60950. An external fast acting fuse $\geq 0.4A$ with melting integral I^2t (0.15 ... 0.25)A²s is necessary to use the MC55i Terminal at a 12V or 24V power supply system for vehicles.

The power supply must be compliant with the EN60950 guidelines.

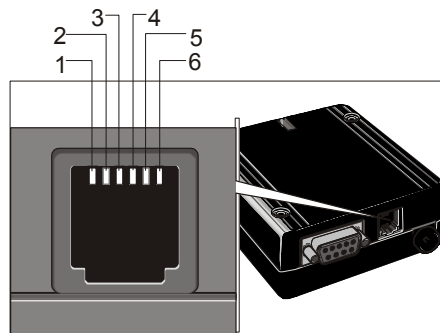
A switching regulator regulates the input voltage for the internal supply. In POWER DOWN mode the switching regulator is turned off by the On/Off logic. A separate voltage regulator supplies the real time clock (RTC) in the GSM engine.

When power fails for $>1ms$, MC55i Terminal resets or switches off. When power fails for $>15s$ the RTC will be reset.

Table 9: Female 6-pole Western plug for power supply, ignition, power down

Pin	Signal name	Use	Parameters
1	PLUS	Power supply	8V – 30V DC, max. 33V for 1 min
2	free	---	---
3	PD_IN	Signal for POWER DOWN mode	$U_{IH} \geq 5V$ for $t > 100ms$ turns the terminal off. $U_{IL} < 2V$ and low level for normal operation.
4	IGT_IN	Ignition	$U_{IH} \geq 5V$ Ignition $\geq 5V$ for more than 200ms switches the MC55i Terminal on. Ignition is activated only by a rising edge. The rise time is $< 20ms$
5	free	---	---
6	GND	Ground	0V

Figure 4: 6-pole Western jack for power supply, ignition, power down



Pin assignment:

- 1 + **Black**
- 2 free **Brown**
- 3 PD_IN **Red**
- 4 IGT_IN **White**
- 5 free **Blue**
- 6 GND **Green**

Mains adapter: If it fits into the design of your GSM application we recommend the plug-in supply unit used with the type approved Cinterion reference setup.

Ordering information can be found in [Chapter 7](#). This 12V mains adapter comes with a 6-pole Western plug and provides an internal connection between IGT_IN pin and PLUS pin for auto ignition (power up).