



Datasheet

Solar TFT-LCD Colour 15" TV/Monitor Kits

Television for remote areas

You live in an off-grid area. You get your electricity from the grid but you are facing cuts-off. You move regularly and you would like to be independent from any fixed electrical source. Then the **Solar TFT-LCD colour 15" TV Kits** by Free Energy will surely answer you need.

Solar energy powered

The **Solar TFT-LCD colour 15" TV Kits** by Free Energy combine a solar electricity generator with a TV/Monitor specially designed for use in off-grid situations.

Solar panels convert daylight into electricity which is stored in a battery. The TV/monitor can then be powered by this stored energy at anytime during day and night.

Quality and performance

Components included in the **Solar TFT-LCD colour 15" TV Kits** have been selected according to following criteria:

- An **efficient electricity production**,
- TV/monitor **consumption** as **limited** as possible.
- **Withstand voltage fluctuations** normal in Solar Home Systems but not supported by conventional TV sets.

In practice, quality is supported by

- A **10 year guarantee** applies on solar panels.
- More than **30,000 hours lifetime expectancy** of the LED background lighting.



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Content

The **Solar TFT-LCD colour 15" TV Kits** contains a TV/monitor powered by a group of solar photovoltaic panels connected to a battery.

The system is delivered as a kit with pre wired components for easy mounting and installation.

Operation principle

At daytime, solar panels convert light into electricity stored in a battery. At any time of the day, the TV/Monitor can be switched on and then runs thanks to the stored energy.



TV/Monitor characteristics

- Screen size: 15inch / 38cm
- Aspect ratio: 16:9 / 4:3
- LED background lighting
- Resolution: 1024 x 768
- Brightness: 250cd/m²
- Contrast rate: 500:1
- Tuner : multi standard (NTSC M/N, PAL M, PAL BG, PAL I, PAL DK, PAL N, SECAM BG, SECAM DK, SECAM L)
- Very low power consumption:
 - o Nominal power: 15W
 - o Maximum power: 18W
- Long lifespan
- Multi-language menu
- Built-in stereo loud-speakers
- PC, VCD and DVD screen modes
- Remote control
- Earphone output
- Nominal input voltage: 12V DC
- Operation voltage range: 10.5 to 15.0V
- Standby power consumption: 1.8W
- Response time (black-to-white): 16ms
- Number of colours displayed: 16.7M
- Life Span (background lighting): 30,000 hours
- OSD languages: French, English, Spanish, German
- Operation temperature range: -10°C to +50°C
- Viewing angle (degrees):
 - o left = 45
 - o right = 45
 - o top = 15
 - o bottom = 35
- Dimensions : 280mm x 355mm x 50mm
- Net Weight: 2.2 kg



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Solar generator characteristics

The TV/Monitor supplied in the **Solar TFT-LCD colour 15" TV Kits** has been specially designed for a use with solar energy: its nominal and standby electrical powers have been severely reduced.

The required energy for operating the TV/Monitor is proportional to the **average daily operation duration**. The kit should be selected according to this criterion.

This choice is also driven by the location of use as the **solar irradiation** varies depending upon geographical areas.

The following table provides a list of available configurations.

Characteristics of other main components

The solar panels included in the TV/Monitor kit are manufactured by Free Energy under reference FEE-14-12.

The free-maintenance AGM type sealed battery offers an expected lifetime duration ranging up to 10 years.

The 5A 12V charge controller is equipped with connections between solar panel(s) and battery. It is also supplied with a CLA triple plug. These plugs also allow **occasional load of low power** devices such as small batteries and cell phone.

Kit's selection table

Minimum Irradiation ¹⁾ (kWh/m ² /day)	Required duration of operation (h/day)	Recommended solar TV Kit ²⁾	Number of panels FEE-14-12	Battery capacity (Ah 12V)
5.5	3h45	NR-TV-014/026	1	26
	7h15	NR-TV-028/055	2	55
	10h50	NR-TV-042/090	3	90
	14h30	NR-TV-056/120	4	120
	18h00	NR-TV-070/140	5	140
3.5	2h15	NR-TV-014/026	1	26
	4h30	NR-TV-028/055	2	55
	6h45	NR-TV-042/090	3	90
	9h15	NR-TV-056/120	4	120
	11h30	NR-TV-070/140	5	140

¹⁾ Average monthly irradiation reference (5.5 kWh/m²/day = typical value common in Africa; 3.5 kWh/m²/day = typical value common in Europe).

Non contractual photos and sketches