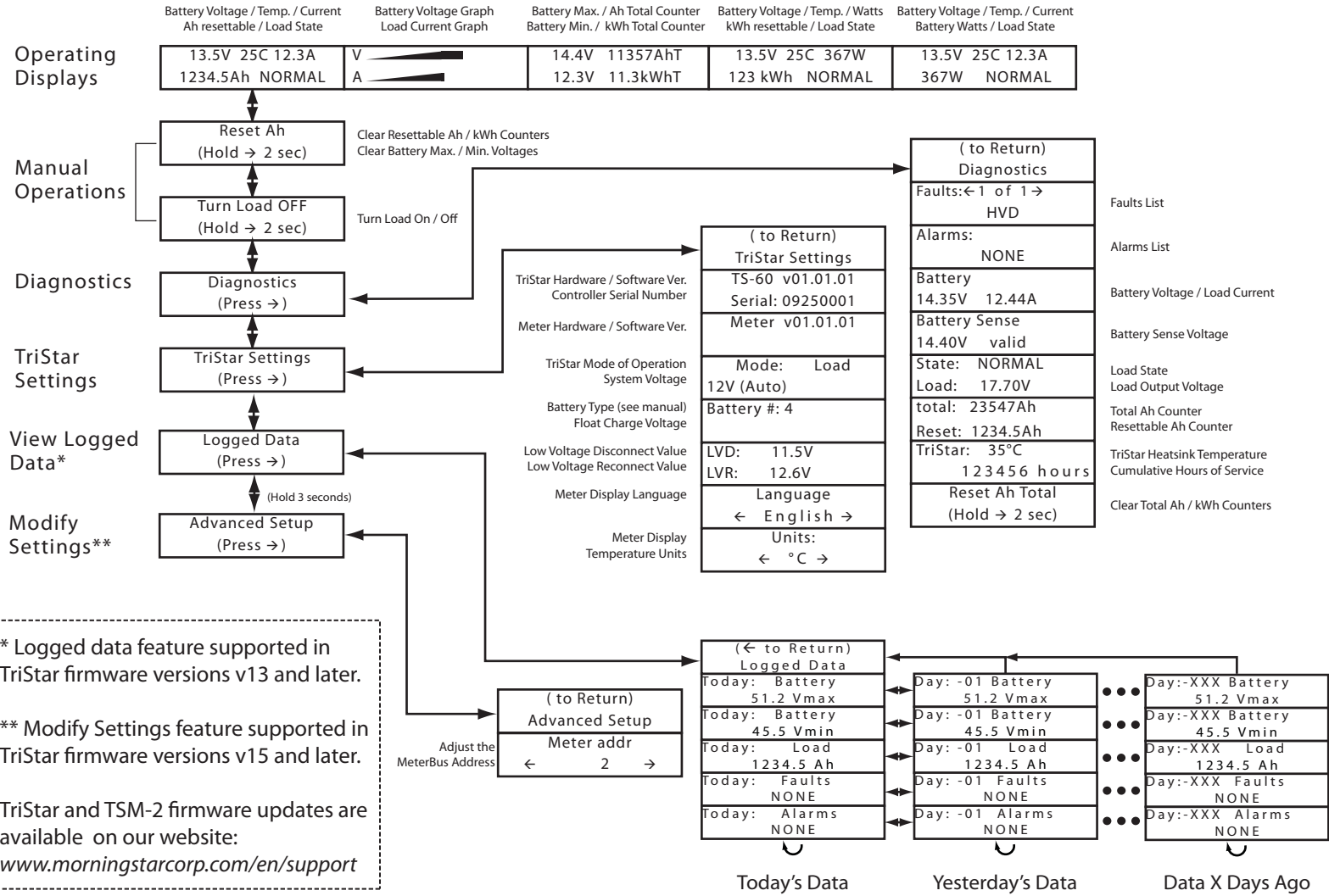


# Models:

TS-45 (Load Mode)

TS-60 (Load Mode)

# Load & Lighting Control



\* Logged data feature supported in TriStar firmware versions v13 and later.

\*\* Modify Settings feature supported in TriStar firmware versions v15 and later.

TriStar and TSM-2 firmware updates are available on our website:  
[www.morningstarcorp.com/en/support](http://www.morningstarcorp.com/en/support)

Alarms	Description
Ths Disconnected	heatsink temp. sensor is open
Ths shorted	heatsink temp. sensor shorted
TriStar HOT	limiting current due to high temp.
Current limit	limiting an overcurrent condition
Current offset	current measurement off > 1 Amp
Battery sense	battery voltage sense error
Batt Sense disc	battery sense no longer connected
Uncalibrated	controller not factory calibrated
miswire	system wiring problem detected
FET open	power switches not turning on
P12	internal power supply problem

Faults	Description
External Short	external short circuit
Overcurrent	current exceeds rating
FET Short	power switches may be damaged
Software	software problem
HVD	high voltage disconnect
TriStar HOT	heatsink temperature exceeded limits
DIP sw changed	a settings switch was adjusted while running
Setting Edit	new setting(s) written to custom settings memory
Reset?	a reset due to an interrupted fault
Miswire	system wiring fault