2 1	0	Bit	7	on.		_C		ω 4			2	ш		0	8 9-15	7	თ	U		4	ω	2	ь	0	Bit	
ω 2	ь		24	23		22		20 21			19	18		17	9	00	7	6		U	4	ω	2	<u>بر</u>		SS-MPPT
RTS shorted RTS disconnected	L RTS open	Alarm	4 unused	3 EEPROM setting edit (reset required)		2 High Temp. Disconnect		3 Software bug 1 Load HVD			Load MOSFETs damaged	3 Load Over-current		Load Fault External Short Circuit	Local Temp. Sensor Failed 16 unused	RTS disconnected	RTS shorted	EEPROM setting edit (reset required)		Array HVD	Battery HVD	Software bug	FETs shorted	Overcurrent	Array Fault	
															Solid R	Blink R	Blink R	Blinkx		Blink R	Blink R	Solid R	Solid R	Blink K	Status	LED Indication
R/Y - G/Y R/Y - G/Y				R-Y-G		R - Y		R-Y-G R-G			R-Y-G	R/Y - G		R/G-Y		R/Y - G/Y	R/Y - G/Y	K-Y-G) :						Status	cation
Short circuit detected in Remote Temp Sensor Remote Temp Sensor has been disconnected (was properly connected)	Remote Temp Sensor Disconnected (always set if no RTS connected)			EEPROM settings edited while running		Heatsink temperature exceeds safe operating limits - load Poor airflow around controller disconnected	threshold	A software error has occurred in the processor Battery voltage exceeds load high voltage disconnect			Load MOSFET's shorted	Load current draw exceeds the controllers rating		External wiring short circuit	Damaged local (ambient) temp sensor	Remote Temp Sensor has been disconnected (was properly connected)	Short circuit detected in Kemote Temp Sensor	ELPKOIN Settings edited while running		PV input voltage above safe operating limit	Battery voltage exceeds high voltage disconnect threshold - halt in charging	A software error has occurred in the processor	MOSFET(s) damaged - short circuited	The charge current exceeds the controller's rating	Description	
See Array Fault: RTS shorted above. See Array Fault: RTS disconnected above.	RTS not connected			A set point was changed via custom programing	Excessive ambient temperature	d Poor airflow around controller	battery	This is an internal software problem Another charging source in the system is over-charging the	A power MOSFET is damaged (short circuited)	An external short has occurred	Damaged load causing excessive current draw Voltage on the Load terminals	Damaged load causing excessive current draw Load draws more than SSMPPT rated current	A system miswire	A short occurred on a power cable	Local Temp. Sensor has been damaged	The RTS is no longer detected. Previously a valid RTS signal was present.	Ine KTS cable has been pinched or otherwise shorted The RTS terminal connections have collected dust/moisture and are causing an erroneous reading	A set point was changed via coston programming		Power MOSFETs may be shorted Array input voltage exceeds operational ratings	Battery voltage exceeds nigh voltage disconnect threshold. Another charging source in the system is over-charging the -halt in charging. - halt in charging	This is an internal software problem	The current sense circuitry is malfunctioning A power MOSFET is damaged (short circuited) An external short has occurred	ry Alfay is too large	CAUSES CAUSES	Carron
See Array Fault: RTS shorted above. See Array Fault: RTS disconnected above.	RTS not required for operation, RTS can be connected if desired for more accurate temperature compensated charging			manual for more information. Restart/power cycle to reset. MSView Coil Reset command may also be used.	Check ambient temperature at the controller location. Ensure temperature is below maximum temp rating of SSMPPT. See	Ensure controller is mounted in a position with enough clearance on all sides. See manual for more information.	SSMPPT charging voltage.	Update to latest firmware from the Morningstar website Remove the other charging source, check its operation and charging voltage at or halow the	externally Contact distributor for service	output circuit Be sure the positive power terminals are not wired together	Inspect and test load for proper operation Verify there are no other power sources connected to the load	Inspect and test load for proper operation Reduce loads connected to SSMPPT load terminals. Connect these loads directly to battery instead.	Be sure the positive power terminals are not wired together	Inspect the system wiring for shorts, damaged insulation, etc.	Contact distributor for service	Inspect the RTS connection for loose wires. Inspect the RTS cable for breaks.	Inspect RTS terminals for dust/dirt/moisture and clean with alcohol if necessary	also be used.	Voltage below maximum rating, be sure to take into account temperature effects on the array Vost. Portrat forward viels to reset MSView Coil Reset command may	Contact distributor for service Consult documentation for maximum array voltage. Keep array	charging voltage. Keep the charging voltage at or below the SSMPPT charging voltage.	Update to latest firmware from the Morningstar website	Contact distributor for service Contact distributor for service Be sure the positive power terminals are not wired together externally	College to the documentation of the second o	Consult the documentation for maximum current ratings	Politions

21-23		20	18 19	17	15 16	14	11 12-13	8-9 10	7	σ		(ri	4	3 Bit
22-24 unused		21	19 20	18	16 17	15	12 13-14	9-10 11	00	7		σ	υı	4
unusec		Alarm 21 (Log Timeout)	Alarm Alarm	high Va	FET open P12	miswire	RTS miswire unused	unused Uncalibrated	Currer	Currer		SSMPPT hot	Ths shorted	Ths open
_		21 (Log	19 (Pov 20 (LVD	high Va current limit	en	ni	iswire	d brated	Current offset	Current limit		PT hot	orted	
		Timeou	Alarm 19 (Power On Reset) Alarm 20 (LVD Condition)	it limit										Array Fault
		.	Reset)											ault
														Charging Status
							R/Y - G/Y							Battery Status
		the loa 24hrs s	A powe	PV input v	MOSFE P12 Int operat	Extern	and/or Remot	Factor	Errone	Active	0	Heatsi	Heatsi	Heatsi
		the load was disconnected 24hrs since last log entry write	A power down reset has occurred Low Voltage Disconnect (load) cor	naroware railure. PV input voltage too high, current limiting to protect hardware	MOSFET(s) damaged - open circuit P12 Internal power supply out-of-r operate correctly, but this is an ind	External system wiring error	and/or voltage readings may result Remote Temp Sensor wired incorrectly	Factory calibrat	t, could	Active limiting of charging current	0	Heatsink High Temperature Warning, reduction of	Heatsink Temp. Sensor Shorted	Desc: Heatsink Temp. Sensor Open
		sconne t log ent	reset h	re. ge too h	naged - ower su tly, but	n wiring	reading Sensor	tion wa	rent rea lead to	of char		Tempe	p. Sensc	p. Senso
		cted ny write	as occur et (load)	igh, cun	open ci oply out this is a	error	gs may i	s not pe	ding wh	ging cur		ature V	r Shorte	Desci or Open
			red	ent limi	rcuit -of-rang n indica		esult correcti	rforme	en then	rent		/arning,	ď.	Description Open
			on has c	ting to p	e. Unit		Χ .	d, inaccu	e should and/or			reducti		
			A power down reset has occurred Low Voltage Disconnect (load) condition has occurred and	protect	MOSFET(s) damaged - open circuit P12 Internal power supply out-of-range. Unit should still poperate correctly, but this is an indication of a potential			rrate cui	Erroneous current reading when there should be zero current, could lead to inaccurate load and/or array current			on of		
	la			Þ	=	<		Damage to current measurement circuit Factory calibration was not performed, inaccurate current Calibration of measurement circuits not performed, inaccurate current. Calibration of measurement circuits not performed, inaccurate current.			m	TD		
	last 24hrs.	disconnect threshold Controller has not de	Controller has lost power Battery voltage has dropped below	Array input voltage too high for safe operation	Hardware failure Internal hardware problem	Wiring installation error		Damage to current measurement circuit	Failed current offset routine	Input power exceeds controller rat	Excessive ambient temperature	Poor airflow around controller	Damage to heatsink temperature	Cau: Damage to heatsink temperature
		t thresh	has los dtage h	ıt voltag	failure ardwan	stallatio		to curre	rent of	ver exce	ambiei	ow arou	to heat:	to heat:
		old detect	t power	ge too h	proble	n error	9	nt meas	set rout	eds cor	nt temp	and cont	ink tem	sink tem
		ed a cor	bed belo	igh for s	3			uremer	line	ntroller	erature	troller	peratur	Ca
		nplete s	the in	afe ope			2100	it circuit		ating			e sensor	Causes ture sensor
		unrise/	oad low	ration									Ä	7
		sunset o	the load low voltage				90) + +						
		ycle in t					ictory							
thes	conc	he Coul	Non	Con	Con	Che	S	Con	Reboot	mai No	다e on a	dist Ens	dist Wit	Wit
these factors.	litions a	up to a higher level Could indicate exce	temperature effects on the array Voc. None required	sult doc	and unconnected wires. Contact distributor for service Contact distributor for service	ck all wi	Contact distributor for service	Contact distributor for service	oot con	temperature is below maximum annual for more information. No action required, controller	on all sides. See manual for more information. Check ambient temperature at the controller l	the heatsink temperat distributor for service. Ensure controller is mo	the heatsink temperat distributor for service. Without accurate tem	hout ac
S.	t night,	er level te exce	e effects	umenta w maxi	ected w ributor ributor	ring for	cributor	tributor	troller a	re is belomore in equired,	. See ma	k tempe for serv troller is	for serv	curate t
	or misw	ssively l	on the	tion for mum ra	rires. for serv for serv	correct	for serv	for serv	nd allov	formati contro	nual fo	ice. mount	erature ice. empera	empera
	iring of	vIII reco	array V	maximu ting. Be	ic e	connect	ICe.	ice	v sweep	on. ler will	r more i	from ex ed in a p	from ex	Solutions ture sensor,
	the sola	ver whe	8.	ım array		tions, ch			of arra	mp rati	nformate contro	ceeding	ceeding	ons
	ir array.	e, high a		voltage take int		neck for			y input.	ing of St at full r	tion. Iler loca	safe lev	ntroller	ntroller
	conditions at night, or miswiring of the solar array. Check all of	disconnect threshold up to a higher level when partiery bank charge up to a higher level up to a higher level. Controller has not detected a complete sunrise/sunset cycle in the Could indicate excessively low array voltage, high ambient light		Consult documentation for maximum array voltage. Keep array voltage below maximum rating. Be sure to take into account		Check all wiring for correct connections, check for short circuits			Reboot controller and allow sweep of array input. Check if Alarm returns	temperature is below maximum temp rating of SSMPPT. See manual for more information. No action required, controller will operate at full rated output.	on all sides. See manual for more information. Check ambient temperature at the controller location. Ensure	the heatsink temperature from exceeding safe levels. Contact distributor for service. Ensure controller is mounted in a position with enough clearance	the heatsink temperature from exceeding safe levels. Contact distributor for service. Without accurate temperature sensor, controller cannot prevent	Solutions Without accurate temperature sensor, controller cannot prevent
	of	woire required – condition will recover when pattery bank charges up to a higher level Could indicate excessively low array voltage, high ambient light		array nt		cuits			fAlarm	See tput.	sure	ntact	ntact	prevent