Opti-Sciences Chlorophyll Fluorometer Guide

Features & Functions		*OS5p* Specifications	*OS1p* Specifications	*OS30p* Specifications
Halogen Light Source	Maximum intensity Saturation	15,000 µmols $m^{-2}s^{-1}$ PAR	None, LED light source only	None, LED light source only
	Maximum intensity Actinic	6,000 µmols $m^{-2}s^{-1}$ PAR	No. LED light source only	None, LED light source only
Stable Actinic Halogen Light Source	Optimal for light curves and quenching analysis	Yes	No	Does not apply
LED Light Source	Maximum intensity Saturation	Halogen for High saturation, LED for low	High output LED 11,000 µmols $m^{-2}s^{-1}$ PAR	3,000 µmols $m^{-2}s^{-1}$ PAR
	Maximum intensity Actinic	3,000 µmols $m^{-2}s^{-1}$ PAR	6,600 µmols $m^{-2}s^{-1}$ PAR	
Far Red LED	Used for Fo' determination and reoxidizing PSII	Yes, adjustable	Yes, adjustable	No
Measuring Light Source	LED Red Modulation Source	Intensity 0.1 µmols $m^{-2}s^{-1}$ PAR Adjustable	Intensity 0.1 µmols $m^{-2}s^{-1}$ PAR Adjustable	intensity 0.06 - 0.5 µmols $m^{-2}s^{-1}$ PAR
	Modulation frequency	25Hz to 1MHz	25Hz to 1MHz	
Algae Work	Blue modulation LED Diode 450 nm	Yes	Optional, Adjustable saturation pulse duration	No
Signal Detection	Sensitive PIN photodiode & filter	Sensitive PIN photodiode & filter	Sensitive PIN photodiode & filter	Sensitive PIN photodiode & filter
	Selective Window Amplifier	Selective Window Amplifier	Selective Window Amplifier	Selective Window Amplifier
Microprocessor		32 bit ARM/50.8 - Up to date	32 Bit ARM/50.8 - Up to date	8-bit Microprocessor
Memory	Non Volatile Memory	1 Gigabyte	1 Gigabyte	512 Kbyte
	Memory Cards for multiple users	Yes	Yes	No

Input /Output	USB	Yes	Yes	No
	MMC/SD Memory Card	Yes	Yes	No
Measured and Displayed Parameters	Fo	Yes	Yes	Yes
	Fm	Yes	Yes	Yes
	Fm' (or Fms)	Yes	Yes	No
	F (of Fs)	Yes	Yes	No
	Fo' (or Fod)	Yes	Optional	No
	Fv/Fm	Yes	Yes	Yes
	ΔF/Fm' (or Y)	Yes	Yes	No
	Hendrickson lake model quenching parameters & NPQ for lake model Fv/Fm, Y(II), Y(NPQ), Y(NO), & NPQ	Yes, Built-in Adjustable Actinic light source	Yes, standard built in actinic light source	No
	Kramer lake model quenching parameters Fv/Fm, Y(II), qP, qN, Fo' NPQ	Yes, Built-in Adjustable Actinic Light	Optional	No
	Puddle model quenching parameters Fv/Fm, Y(II), qP, qN, Fo' NPQ	Yes, Built-in Adjustable Actinic Light	Optional	No
	Puddle model quenching parameters with quenching relaxation parameters Fv/Fm, Y(II), qP, qN, Fo' NPQ, qE, qT, qI	Yes, Built-in Adjustable Actinic Light	Optional	No
	Hendrickson lake model quenching parameters with NPQ and quenching relaxation parameters Fv/Fm, Y(II), Y(NPQ), Y(NO) NPQ, qE, qT, qI	Yes, Built-in Adjustable Actinic Light	Optional	No
	PAR	With Optional PAR Clip	With Optional PAR Clip	No
	Leaf Temperature EC	With Optional PAR Clip	With Optional PAR Clip	No
	ETR	With Optional	With Optional	No

		PAR Clip	PAR Clip	
	OJIP graph and readouts	Yes	No	Yes
	FRFex360/FRFex440 Nitrogen test	Yes	No	No
	Light responses curves	Yes, Built-in adjustable actinic light source	Yes, built in actinic light source	Does not apply
	Rapid light curves	Yes	Yes, built in actinic light source	Does not apply
	Multiflash Fm' correction for yield measurements	Yes	Yes	Does not apply
Field Uprade of Protocols and Software	USB connection	Yes	Yes	No
Multiple Users data cards	Protocol information and data stored in individual data cards	Yes up to one Gigabyte per card	Yes up to one Gigabyte per card	No
Graphic Display	Back-lit display	Yes	Yes	Yes
	Graphic display	Yes	Yes	Yes
	One screen for Graphic Display & Readouts	Yes	Yes	Yes
	Instrument control	Both touch screen and keypad	Touch screen Input	Keypad only
Design	Field Toughness	ABS Plastic Case	ABS Plastic Case	ABS Plastic Case
Keypad control	Sealed from moisture and dust	Yes-Sealed Touch Screen & Keypad	Yes-Sealed Touch Screen	Yes
Power Supply	Battery	54 Watt hour NI-Mh	NI-Mh	NI-Mh
	Continuous Use Rechargeable Battery	14 Hr.	8-12 Hr.	4Hr.
Operating Temperature		-5 to 40 ^{0}C	-5 to 40 ^{0}C	-5 to 40 ^{0}C
Operating		2.3kg	1.4kg	0.5kg

Weight				
Size		23 x 13 x14cms	18 x 13 x 14cms	18 x 7 x 6cms
Carrying Case with Shoulder Strap	Padded Nylon	Yes	Yes	No
PAR Clip		Option-Digital	Option-Digital	No
Universal PAR Clip	FRFex360/FRFex440 for nitrogen testing and UVA and UVB screening	Option	No	No
Open Body Cuvette		Yes	Yes	No
Dark Adapted Cuvette		Yes	Yes	Yes
Flexible Fiber Optic Sensor	Stainless Steel Armored 100 cm long	Yes	Yes	No, Special Order Only