Trans Instruments

Instruments for the professioinal

Horticare LiteCheck
Operation (Manual)

Product Specification

Operating Range	100~50,000 Lux 10~5,000 Fc
Resolution	100Lux / 10 Fc
Accuracy	±8% Full Scale
Battery	4x1.5V Button Cell (Alkaline LR44 or equiv.)
Battery Life	Approx. 150 hours (continuous use)
Auto Shut-Off	Approx. 15 min.
Operating Temperature	0°~50°C

LIGHT INTENSITY FOR PLANTS

Plants have an optimal intensity of light. The process of photosynthesis is maximised and plant growth is greatest at this optimal intensity.

If the level of light is less, growth is reduced. In a typical plant, light level of 4000 lux is just enough for the rate of photosynthesis to equal the rate of respiration. This is called the light compensation point. At this intensity, there is no net growth, but the plant can survive.

The control of light intensity allows grower to achieve the desired growth in plants.

Using this light meter, user can control the growth of houseplants by giving just enough intensity, so leaves will not be over grown.

One the other hand, outdoor plants require intensity higher than the minimum requirements for the plants to flower and bear fruits. Optimal growth is obtained with regular checks and charting of light intensity in different seasons, so growers can make adjustment with correct lighting or shading.

Trans Instruments
www.transinstruments.com
ISO 9001 Certified Firm

Simple to use - directional spot sensor - wide range

Trans Instruments

Horticare LiteCheck

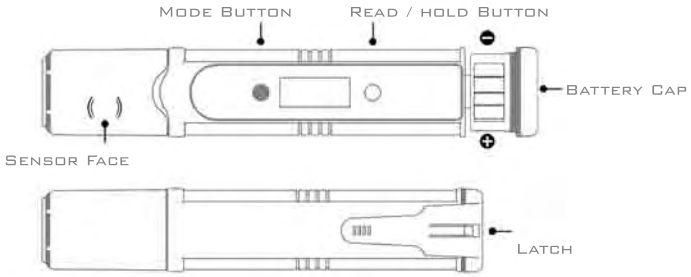
for essential photosynthesis in flowering . fruiting . lush green

Digital Light Intensity meter 100 to 50,000 Lux / 10 to 5,000 fc with hold function

ISO 9001 Certified Firm

Simple to use - directional spot sensor, units in Lux or foot-candle

Product Feature



Battery Cap Installation

INSTALLING BATTERY CAP

This unit is shipped with the battery cap open. Close the battery cap by pressing Cap on on a hard surface util the latch **clicks**, indicating a secure lock.

REPLACING BATTERIES

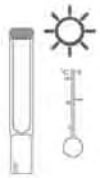
1. Lift latch with a pen or mini screwdriver. **DO NOT PULL** latch out completely.
2. Use the thumb to push Cap forward.
3. Hold the battery cap and seperate it from the meter.
4. Replace all batteries according to polarity.

Precautions In Handling

Do not submerge the unit without the waterproof bag. It cannot come under high pressure underwater and is beyond repair if water gets into the unit.

While using the waterproof bag, be sure to fully seal each zip strip, roll up firmly and fasten with the velcro flap before going under water

Do not store unit without the protective cap or under high temperature and direct sunlight. This will shorten the life span of the meter and cause premature expiry of the sensor.



Do not clean unit with thinner or solvents. This will damage the unit. Use only mild detergent on damp cloth to clean and rinse unit if needed.

CHEMICAL

MAKING MEASUREMENT

1. Press the **on-off / HOLD** button to switch on the unit. Display will show reading flashing in continuous measurement.
2. With the Sensor face directed perpendicular to the light source, place meter to position where sensor is just above measuring site and avoid any shadow overcast.
3. Keep still and wait for 3 seconds and press the **HOLD** button once to freeze the display. Now you can bring the unit in and take a reading.

Note: **This meter measures directional light. The reading displayed indicates lighting accurate at the exact spot where the sensor face is. This reading will appear lower against other photographic/light meter where a dome-shaped sensor is employed to include surrounding reflected stray light from other angles.**

4. To make another reading, press **on-off** button to release the display and repeat step 3 and 4.
5. To avoid inaccurate reading due to shadow overcast, always position the sensor face directed at the light source and away from any shadow.
6. To switch off, press and hold-down the **on-off** button for 3 seconds.

CHANGING UNITS OF MEASUREMENT

1. If different units of measurement is desired, press and hold-down the **MODE** button until the display shows "Lux" for Lux or "Fc" for foot-candle. Then display return to measuring mode.
2. Once unit is set, it will remain until you reset it. Each time when the meter is switched on, the word "Lux" or "Fc" will appear indicating the unit you are about to measure.

MAINTENANCE

LOW BATTERY ALERT

When the battery symbol appear on the display, this indicates a low battery and only 2 hours of continuous use remain. Though the unit may continue to function, the accuracy of the unit will be affected beyond 2 hours. Change the batteries according to instructions overleaf.

In the presence of certain radio transmitters, this product may produce erroneous readings. If this occurs then measurements should be repeated at another location.

GUIDE TO PLANT LIGHTING CONTROL

Lighting is necessary for plant growth. Sufficient lighting is needed for photosynthesis to take place so plants can flower or even bear fruit.

For indoor plants, it is important to use the correct light bulb for artificial lighting with a wide color spectrum. Warm white fluorescent tubes are fairly effective.

Cool white or daylight tubes must be coupled with a few incandescent bulbs of about 3 bulbs to every 10 fluorescent tubes to be effective. Commercially available Metal Halide bulbs alone are most desirable.

As all artificial lighting degrade in intensity over time and it is not noticeable to the eye, it is imperative to check it with the LITEcheck tester periodically. Grower can then adjust light fittings to increase intensity or replace the bulbs if they fail to generate the required intensity.

How much light is enough?

The amount of light required varies with each plant as listed in the table. In each category, the lower reading is the minimum light required for each plant to sustain life but would not promote growth. Higher reading is always desirable for optimal plant growth and necessary for flowering.

Duration of light exposure are also important and most plants requires 12 to 14 hours of day light or 16 to 18 hours of artificial light.

Low Light		Medium Light		High Light Requirement		Very High Light Requirement			
Minimum 30 ~50 fc 300~500 Lux		Minimum 80 ~160 fc 800~1,600 Lux		Minimum 220 fc 2,200 Lux		Minimum 1080 fc / 10,800 Lux			
Optimum 80 ~220 fc 800~2,200 Lux		Optimum 220 ~540 fc 2,200~5,400 Lux		Optimum 540 ~ 1080 fc 5,400~10,800 Lux					
Birdsnest Ferns	(Asplenium)	Aluminum Plant	(Pilea)	Fibrous Rooted Begonia	(Begonia)	Aloe	(Aloe)	Donkey's Tail	(Sedum)
Parlor Palms	(Chamaedorea)	Artillery Plant	(Pilea)	Living Vase Bromeliads	(Aechmea)	Amaryllis	(Hippeastrum)	Geranium	(Pelargonium)
		Baby Tears	(Helxine)	Heather	(Erica)	Pineapple Bromeliads	(Ananas)	Impatiens	
		Rex Begonia	(Begonia)	Ivy	(Hedera)	Calamondin	(Citrus)	Lemon	(Citrus)
		Caladium	(Caladium)			Century	(Agave)	Orange	(Citrus)
		False Aralia	(Dizygotheca)			Coffee	(Coffea)	Pittosporum or Variegated Mock Orange	(Pittosporum)
		Lady Palms	(Raphis)			Coleus	(Coleus)	Strawberry Geranium	(Saxifraga)
		Parlor or German Ivy	(Senecio)			Copperleaf	(Acalypha)	Succulents	
		Prayer Plant	(Maranta)			Croton	(Codiaeum)		

Low to Medium Light Requirement				Medium to High Light Requirement				High to Very High Light Requirement	
Minimum 30 ~50 fc / 300~500 Lux				Minimum 80 ~160 fc / 800~1,600 Lux				Minimum 220 fc / 2,200 Lux	
Optimum 220 ~540 fc / 2,200~5,400 Lux				Optimum 540 ~ 1080 fc / 5400~10,800 Lux				Optimum Above 1080 fc / 10,800 Lux	
Asparagus fern	(Asparagus)	Nerve Plant	(Fittonia)	African Violet	(Saintpaulia)	Norfolk Island Pine	(Araucaria)	Avocado	(Persea)
Bamboo Palms	(Chamaedorea)	Peperomia	(Peperomia)	Airplane or Spider Plant	(Chlorophytum)	Pony Tail Palm	(Beaucarnea)	Cacti	(Many genera)
Boston Ferns	(Nephrolepis)	Philodendron	(Philodendron)	Aralia	(Fatsia)	Rubber Plant Figs	(Ficus)		
Cast Iron Plant	(Aspidistra)	Goldust Plant	(Aucuba)	Starlite Bromeliads	(Cryptanthus)	Swedish Ivy	(Plectranthus)		
Chinese Evergreen	(Aglaonema)	Hawaiian Ti	(Cordyline)	Creeping Figs	(Ficus)	Umbrella Tree or Schefflera	(Brassaia)		
Dieffenbachia or	(Dieffenbachi)	Kangaroo Vine or Ivy	(Cissus)	Episcia	(Episcia)	Velvet Plant	(Gynura)		
Dracaena	(Dracaena)	Kentia Palms	(Howeia)	Fiddle Leaf Figs	(Ficus)	Wandering Jew	(Tradescantia)		
Fluffy Ruffles Ferns	(Nephrolepis)	Mother-in-law Tongue	(Sansevieria)	Indian Laurel Figs	(Ficus)	Wax Plant	(Hoya)		
Grape Ivy	(Cissus)	Piggyback Plant	(Tolmiea)	Jade Plant	(Crassula)	Weeping Figs	(Ficus)		
Nephthytis	(Syngonium)	Pothos, Devils Ivy	(Scindapsus)	Moses in the Cradle	(Rhoeo)	Zebra Plant	(Aphelandra) (Zebrina)		