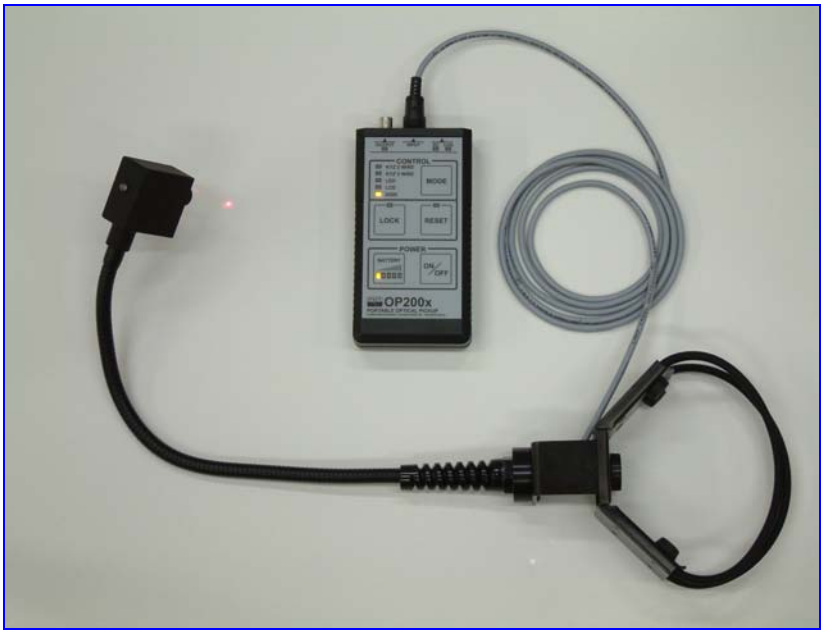

- *Immune to ambient light variations*
- *Visible red targeting light*
- *Automatic sensitivity adjustment*
- *Detects rotating discs, visible and infrared LED's, LCD segments, 2/3-wire contact events*
- *Rechargeable lithium-ion battery*

OP200x PORTABLE OPTICAL PICKUP

DESCRIPTION

The OP200x is a versatile, lightweight, portable instrument designed to detect watt-hour meter disk rotation, light pulses, LCD segments and contact closure events.

The instrument replaces five separate pickup transducers and offers a visible targeting light without resorting to the the potential health hazards of laser light sources.

The instrument incorporates both light modulation and optical processing technology to provide accurate detection and ease of use in all ambient light environments.

The sensor head is attached to the end of a flexible arm which is connected to a meter saddle, or optionally, a magnetic base. The meter saddle is positioned on the meter under test and secured by two bungie cords. This assembly provides a stable and quick positioning mechanism.

A targeting light source and event indicator are also located on the sensor head to facilitate positioning. The small red light spot formed by the targeting light source allows for quick and precise aiming on either a disk edge, a light emitting diode or an LCD display segment. The dual function event indicator located on the back of the head both aids the operator in positioning the sensor and also provides a visual indication of detected events.

An isolated output circuit combines both an active logic level or open-collector output pulse. This configuration eliminates the requirement for an externally supplied DC pull-up voltage while still accommodating the traditional open-collector output interface.

APPLICATION

The OP200x output pulse is typically connected to a pulse count comparator or power circuit analyzer to facilitate the derivation of meter accuracy.

FEATURES

- Five pickup transducers packaged in one instrument
- Detects rotating discs, visible and infrared LED's, LCD segments, 2/3-wire contact events
- Immune to ambient light variations
- Visible red targeting light (non-laser)
- Automatic sensitivity adjustment
- Rechargeable lithium-ion battery provides up to 8 hours of continuous operation

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- Dual function sensor indicator shows events and warns of excessive light reflection.
- Optional KYZ Adapter detects contact closures in the presence of AC or DC voltages from 10V to 260V peak.

SPECIFICATIONS

General

Modes of Operation:

The operator selects one of five possible detection modes on the hand-held control unit as follows...

Reflect Mode: Provides stable and repeatable detection of electromechanical induction meter rotating disk.

Direct Mode: Provides universal detection of both infrared and visible light pulses.

LCD Mode: Provides detection of electronic meter liquid crystal segments without having to remove the meter cover.

KYZ 2-Wire Mode: Detects dry contact KY or KZ contact closures.

KYZ 3-Wire mode: Generates a single pulse for every KY - KZ dry contact closure. The contact configuration can be either 'break before make' or 'make before break'. Depressing the reset switch configures the processing circuitry to allow either a KY or KZ event to initiate the KYZ qualification process which prevents the loss of pulse information.

Maximum input pulse rate:

10 pulses / second for Reflect, Direct and LCD modes...30 pulses / second for KYZ modes.

Target Light:

Non-laser red color. Spot diameter 0.5 inch at 4 inch distance, 0.3 inch at 2 inch distance.

Sensor Distance to Target:

Optimum is 2 to 3 inches.

Maximum of 6 inches.

Reflect - Direct - LCD Modes

Modulation Frequency:

40 KHz ± 5%

Pulse Repeatability Jitter:

< ± 25 usec

KYZ Modes

Acceptable Contact Forms:

- Single contact
- Dual contact break-before-make
- Dual contact make-before-break

Short Circuit Input Current:

320uA ± 20%

Max. Contact ON Voltage:

4 volts

Max. Contact OFF Voltage:

15 volts

Input Circuit Configuration:

47 kiloohm pull-up resistor to +15VDC supply.

Pulse Repeatability Jitter:

< ± 50 nsecs

Input Protection:

125mA replaceable fuse

Output

Pulse Duration:

Active low 30 msec pulse

Output Circuit Characteristic:

The output circuit is electrically isolated from the KYZ input and DC input power source.

The output signal switches from nominal 5VDC to 0VDC, without an external pull-up, with a source impedance of 1kohm to 0.5ohms, respectively.

An external pull-up voltage above 5VDC disconnects the internal 1kohm pull-up resistor. A maximum pull-up voltage of 24VDC is tolerated. The external pull-up resistor should limit the maximum sink current to less than 100mA.

The output circuit is protected by a 125mA fuse and will clamp external voltages greater than 24VDC or less than -0.5VDC.

Input Supply

Rechargeable lithium-ion battery providing nominal 8 hours continuous operation with a 4 hour charging cycle from included 120VAC / 60Hz wall adapter.

Dimensions

Control Unit:

157L x 84W x 30H mm

6.2L x 3.3W x 1.2H inches

Sensor Assembly:

18 in. (457 mm) flexible arm

Weight

Control Unit: 0.3 kg (0.7 lbs)

Sensor Assembly: 0.9 kg (2 lbs)

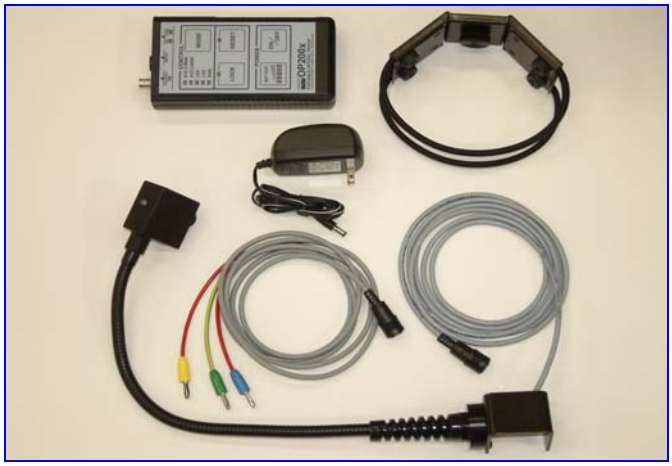
Optional KYZ Adapter

Automatic detection of KYZ events manifested as...

- Dry Contact Closures (1000 ohms max.)
- DC Voltage (10VDC min. to 260VDC max.)
- AC Voltage (10VAC peak min. to 260 VAC peak max.)

ORDERING INFORMATION

Item (Qty)	Catalog No.
Model OP200x, English	PMT40000-008-02
Model OP200x, French	PMT40000-008-01



Included Accessories

Control Unit	002859 English or
	002860 French
Optical Pickup Assembly	002864
Mounting Saddle	002709
AC Adapter, 120V / 60Hz	002827
KYZ Cable (2 m, 6.6 ft)	002857
Manual	002948

Optional Accessories

KYZ Adapter	PMT40000-010-01
Hioki Analyzer Interconnect Kit	PMT40000-009-01
Powermate Interconnect Cable	PMT40000-014-01
Magnetic Sensor Base	PMT40000-011-01
Automotive Charger Cable	PMT40000-012-01
Carrying Case	PMT40000-013-01

CONTACT INFORMATION

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