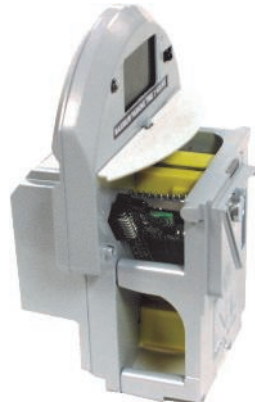


# MacKay GUARDIAN™ X Series



## MacKay Guardian™ X Series



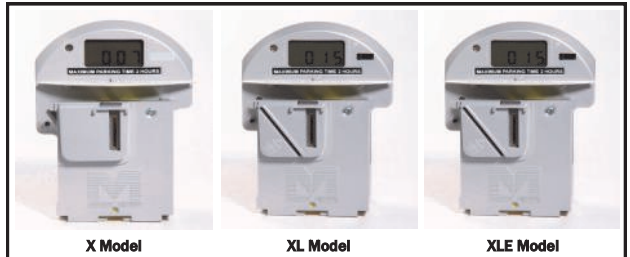
### Key features:

- The MacKay Guardian™ X Series is MacKay's most popular generation of electronic mechanisms. With three models to choose from, the X, XL and XLE utilize the proven MacKay Guardian™ pedigree of being tough, reliable and accurate.
- The MacKay Guardian™ X Series has been designed to meet the challenges, and demanding requirements of our customer's diverse single space parking needs.
- Designed for flexible enforcement, programming, battery use and ease of maintenance.
- Count Down Timer Accuracy and Real Time Clock Accuracy certified by an independent laboratory.
- Features include:
  - MacKay's patented SmartChute™ coin validation technology,
  - MacKay's patented SmartPower™ technology (XLE model),
  - Exceptional battery life performance (XLE model),
  - Automatically scheduled profile/rate changes,
  - LED back light for night time use (XL & XLE models),
  - Large easy to see, rear violation LCD.
- Manufactured under stringent ISO 9001:2000 certified quality processes.
- MacKay Meters backs its entire MacKay Guardian™ product line with a solid warranty based on the confidence, quality and lineage of its products.

<over for specifications>

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X	XL	XLE		X	XL	XLE	
✓	✓	✓	<b>General Specifications</b> <ul style="list-style-type: none"> <li>Compatible with all MacKay mechanism housings and most competitors' products.<sup>4</sup></li> <li>Manufactured under ISO 9001:2000 certified quality processes.</li> <li>Designed to work under extreme environmental conditions.</li> <li>Can withstand prolonged exposure to intense UV radiation, humidity, rain, sleet, snow and grime and under normal street vibration.</li> <li>Operating temperature range: -40 °C (-40°F) to 80 °C (176°F).</li> </ul>	✓	✓	✓	<b>ISO Card System<sup>4</sup></b> <ul style="list-style-type: none"> <li>Programmable to use one (or more) of the following ISO7816 compliant card payment technologies: <ul style="list-style-type: none"> <li>Microprocessor cards capable of using sophisticated security algorithms to deter fraud.<sup>4</sup> (e.g. DES)</li> <li>Reloadable/reusable type memory card used as a token based stored value card.</li> <li>Disposable type memory card used as low cost token based stored value card.</li> <li>Card payment schemes requiring active authentication. <sup>4</sup></li> </ul> </li> <li>Card reader rated at 200,000 insertions and constructed for easy maintenance.</li> <li>Card reader can optionally support single security access module (SAM).<sup>3,4</sup></li> </ul>
✓	✓	✓	<b>Internal Time Keeping</b> <ul style="list-style-type: none"> <li>Equipped with a time-of-day clock that is accurate to a few seconds-per-week.</li> <li>Real Time Clock Accuracy and Count Down Timer Accuracy is certified by an independent laboratory.</li> <li>A 365-day calendar/Real Time clock. <ul style="list-style-type: none"> <li>with short-term power backup during battery exchanges/replacement.</li> </ul> </li> <li>Time-of-day clock is automatically re-synchronized to the handheld computer's time-of-day clock during data transfer.</li> <li>Perpetual and automatic daylight savings time change feature.<sup>4</sup></li> <li>Automatically introduce a scheduled profile/rate change.</li> </ul>	✓	✓	✓	<b>Special Expansion Features</b> <ul style="list-style-type: none"> <li>Expansion ports are accessible from within the meter frame. These ports act as integration points for future add-on hardware and accessories. <ul style="list-style-type: none"> <li>Card reader edge connector port.</li> <li>Main board edge connection port.</li> </ul> </li> <li>Meter supports an optional button interface located next to coin slot.<sup>4</sup></li> <li>Other custom applications/configurations available upon special request.<sup>4</sup></li> </ul>
✓	✓	✓	<b>Powered by Patented MacKay SmartPower™ Technology</b> <ul style="list-style-type: none"> <li>Supports 6V and 9V alkaline battery packs.</li> <li>Can operate for a period in excess of 12 months <sup>1</sup> using a 6V (4xAA) alkaline pack, dual 9V alkaline pack <sup>2</sup>, or single 9V lithium pack.</li> <li>Supports the use of 3V, 4.5V, 6V and 9V battery packs, with no changes to main board hardware required.</li> <li>Can operate for a period in excess of 36 months <sup>1</sup> (3yrs) using a 4.5V (3xC) alkaline pack, and for a period in excess of 48 months<sup>1</sup> (4yrs) using a 3V (2xD) alkaline pack.</li> </ul>	✓	✓	✓	<b>Memory Size &amp; Programmable Features</b> <ul style="list-style-type: none"> <li>Standard programming resident in 60 KB re-programmable memory.</li> <li>Additional 256 KB serial Flash data storage.</li> <li>Highly flexible rate/tariff/ max-time structure including: <ul style="list-style-type: none"> <li>Up to eight (8) defined rates with defined max time for each.</li> <li>Standard rate operation.</li> <li>Time-of-day rate/max time control.</li> <li>Day-of-week rate/max time control.</li> <li>Day-of-year rate/max time control.</li> <li>Progressive/regressive tariffs.<sup>4</sup></li> <li>Cumulative grace.</li> </ul> </li> </ul>
✓	✓	✓	<b>Front Display</b> <ul style="list-style-type: none"> <li>High contrast and high visibility Liquid Crystal Display (LCD) and Light Emitting Diode (LED) technologies.</li> <li>LCD has programmable time-of-day/duration and LED back light for effective night-time operation.</li> <li>Large display - 2.5cm (1 inch) x 5cm (2 inches). Shows four 1.27cm (1/2 inch) high numeric digits, colon, plus seven additional icon/symbols/messages.</li> </ul>	✓	✓	✓	<b>Software System Management Features</b> <ul style="list-style-type: none"> <li>Meter revenue audit including individualized coin counts, plus total invalid coin count.</li> <li>Separate time-stamped transaction (coin/card) and maintenance logs for ticket adjudication.</li> <li>Transaction log stores time-stamped data for the last approx. 450 coin and/or card transactions.</li> <li>Maintenance log stores time-stamped data for the last approx. 100 maintenance events.</li> <li>Coin discrimination data is retrievable in the field for chute performance analysis by factory personnel.</li> <li>Swapping/moving meters within a meter system.</li> <li>Audit disable for coin and/or card check during: <ul style="list-style-type: none"> <li>Maintenance/testing.</li> <li>Time/rate programming.</li> <li>Meter maintenance.</li> <li>Meter/post inventory.</li> </ul> </li> <li>Password protected - user and group level security features.</li> </ul>
✓	✓	✓	<b>Rear Display</b> <ul style="list-style-type: none"> <li>Large and highly visible display - 2.5cm (1 inch) x 7.5cm (3 inches). Flashes red and silver to indicate "Time Expired" or solid silver for valid parking time.</li> <li>Can display text "EXPIRED", "OUT OF ORDER", two 1.27cm (1/2 inch) high No Parking Symbols</li> <li>Optionally supports dual numeric displays (time displayed front and back).<sup>3</sup></li> </ul>	✓	✓	✓	<b>Handheld Computer</b> <ul style="list-style-type: none"> <li>Rugged handheld computer, with Ethernet/serial communications/rechargeable cradle and attached IR and/or RF communications device.</li> <li>Wide range of accessories available.</li> </ul>
✓	✓	✓	<b>LED Display</b> <ul style="list-style-type: none"> <li>Dual colour (Red/Green) Super Bright LED's on both front and rear.</li> <li>Flashing LED visible at distance of 24 meters (80 feet) at night.</li> <li>Programmable for maximum flexibility in enforcement options.</li> </ul>	✓	✓	✓	<b>Warranty</b> <ul style="list-style-type: none"> <li>J.J. MacKay Canada Limited, the manufacturer, guarantees for a period of one year from the date of shipment against defects in workmanship and/or materials.</li> </ul>
✓	✓	✓	<b>Patented SmartChute™ Coin Discriminator</b> <ul style="list-style-type: none"> <li>3-coil design provides accurate coin reads and long life.</li> <li>Straight-drop/clear view coin chute allows for superior detection and removal of foreign objects.</li> <li>Coin chute is easily and quickly replaced/serviced in the field without the need for special tools.</li> <li>Coin chute calibration or chute training is not required.</li> <li>Sorts up to 16 different coin/token signatures and uses a single entrance slot.</li> <li>Can be programmed to detect non-metallic jams such as paper/gum.</li> <li>Validates and discriminates coins electronically by two different coil sensors/ methods.</li> <li>Invalid coin indicator on display.</li> </ul>	✓	✓	✓	<p>Contact your local representative for further information.</p> <p>[1] Actual battery life achieved may vary significantly depending on many factors including but not limited to: battery manufacturer, age of battery when installed, meter usage, hours of operation, features implemented, and operating environment.</p> <p>[2] Requires Dual 9V adapter, Part # 35GD0000055</p> <p>[3] Factory installed option, 6-8 weeks lead time.</p> <p>[4] Certain restrictions and/or costs may apply.</p>
✓	✓	✓	<b>Communication and Data Transfer</b> <ul style="list-style-type: none"> <li>Supports the following modes of communication and programming: <ul style="list-style-type: none"> <li>RF (Radio Frequency)</li> <li>IR (Infrared)</li> <li>peripheral port</li> <li>card slot, and card adapter port (if card reader installed).</li> </ul> </li> <li>A typical meter rate or parameter change in less than 10 seconds using IR.</li> <li>Transfer of coin audit data, as well as clock date re-synchronization, in less than 3 seconds using IR. Faster data transfers may be possible using other communication modes.</li> <li>Coin audit totals are always protected and stored in non-volatile memory.</li> <li>Audit information retained during battery failure and/or replacement.</li> <li>Status of meter uploaded when interrogated or otherwise stimulated.</li> <li>Meter information can be imported into an electronic parking citation issuance system to be printed on a ticket at the time of issuance.<sup>4</sup></li> </ul>	✓	✓	✓	<p>As our policy is one of continuous product improvement and development, we reserve the right to alter product specification and design. Photos are representative; product appearance may differ.</p>



X Model

XL Model

XLE Model

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95LT0000125-01/19

**Head Office:**  
J.J. MacKay Canada Limited  
1342 Abercromble Road  
PO Box 338, New Glasgow  
Nova Scotia, Canada B2H 5E3  
Phone: (902) 752-5124  
Fax: (902) 752-5955

**Customer service and technical support:**  
Toll free in North America:  
1-888-4MACKAY (462-2529)  
Fax: (902) 752-4889  
Email:  
customer.service@mackaymeters.com  
Web: www.mackaymeters.com

**Sales Office:**

