METROLINX

# Payments (PRESTO) Station Point of Sale (SPOS) Standard

MX-PYM-STD-003

Revision 00
November 2024

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Metrolinx,

*an Agency of the Government of Ontario*

# Preface

This is the first edition of the *Payments (PRESTO) Station Point of Sale (SPOS) Standard*. This standard replaces the previous internal document titled *SPOS*.

This document is for use by designers, consultants and contractors involved with the planning, design and construction of projects that include these devices. It is intended for suitably qualified professionals that are familiar with the subject matter. This document is not a substitute for all applicable local codes, standards and manuals.

The *Payments (PRESTO) Station Point of Sale (SPOS) Standard* was developed by the Operational Readiness Payments Office, Payments (PRESTO) Division, Metrolinx.

Suggestions for revision or improvements, including a description of the proposed change along with information on the background of the application and any other useful rationale or justification, can be sent to the Metrolinx Payments (PRESTO) Office, Attention: Director Operational Readiness Payments. The Director of Operational Readiness Payments ultimately authorizes the changes. Proposals for revisions or improvements to include your name, company affiliation (if applicable), email address, and phone number.

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# 1. Scope

## 1.1 Overview

1.1.1 This standard sets out the requirements during planning, design, construction, and maintenance.

1.1.2 The Station Point of Sale (SPOS) PRESTO device is for Customer Service employees to perform multiple activities with PRESTO cards, such as: activation, load funds, setup a default trip, concession, and helping customers with previous trip records. In other contexts, this device is referred to as SPOS.

## 1.2 Purpose

1.2.1 The key objective of this standard is to provide accurate details and specifications to plan the design and execution of SPOS PRESTO device infrastructure by providing installation details, civil works requirements, and power and data specifications.

1.2.2 Compliance with this standard during planning, design, construction, and maintenance will ensure that Work performed aligns with the holistic approach for Payments (PRESTO) elsewhere in the network.

1.2.3 The Contracted Party shall perform all Work in accordance with the requirements of this standard and shall support the Metrolinx commitment to always take safety seriously.

# 2. Definitions, Abbreviations, Interpretation, Codes, and Standards

## 2.1 Definitions

2.1.1 Capitalized terms used in this standard shall have the meanings prescribed in Table 1.

**Table 1: Definitions**

| Term | Definition |
|---|---|
| Contracted Party | Means the party responsible for the performance of the Work of the project assignment and under contract or agreement with Metrolinx (e.g. Consultant, Contractor, |

| Term | Definition |
|---|---|
| | Designer, Design-Builder, Project Co, Technical Advisor, or Developer).<br><br>Within this standard, wherever the term Contracted Party is used, but there is no Contracted Party, the same item shall apply directly to Metrolinx. |
| Customer Service | Means station attendants that assist GO Transit customers. |
| GO Station | Means any GO Transit station. |
| Metrolinx | Means Metrolinx, a non-share capital corporation continued under the Metrolinx Act, S.O. 2006, c.16 and a Crown Agency in accordance with the Crown Agency Act, R.S.O. 1990, c.48 and includes all operating divisions. |
| Metrolinx Standards | Means standards developed by Metrolinx as defined in Section 2.4.1. |
| PRESTO | Means Metrolinx's Regional Fare Card System |
| Transit Safety | Means the division within Metrolinx that is accountable for the enforcement of the Trespass to Property Act. |
| Work | Means the design, construction, maintenance, installation, testing, commissioning, and completion of the scope of the project assignment. |

## 2.2 Abbreviations

2.2.1 The abbreviations used in this standard shall have the meaning prescribed in Table 2.

**Table 2: Abbreviations**

| Abbreviation | Definition |
|---|---|
| ANSI | American National Standards Institute |
| AWG | American Wire Gauge |
| CMR | Communications Multipurpose Cable, Riser |
| I&IT | Innovation & Information Technology |

| Abbreviation | Definition |
|---|---|
| ITFS | Information Technology Field Services |
| LAN | Local Area Network |
| N/A | Not Applicable |
| NEMA Box | National Electrical Manufacturer Association Box |
| SPOS | Station Point of Sale |
| TIA | Telecommunications Industry Association |
| U/UTP | Unshielded Twisted Pair |
| UPS | Uninterruptible Power Supply |
| USB | Universal Serial Bus |

## 2.3 Interpretation

2.3.1 This standard shall be interpreted according to the following provisions, unless the context requires a different meaning:

a) Unless the context specifically states otherwise, all obligations included herein are the responsibility of the Contracted Party to undertake;

## 2.4 Codes and Standards

2.4.1 All systems, equipment and materials required for Work relating to this standard, shall be provided in accordance with the most current edition of applicable federal, provincial, municipal, and industry codes, standards, and guidelines, including:

a) Metrolinx/GO Transit standards and guidelines (the "Metrolinx Standards"), including all latest version documents on the GO Site, including amendments and bulletins (http://www.gosite.ca/engineering_public/);

b) National Building Code of Canada (NRCC 51690), latest version;

c) Ontario Provincial Standard Specifications (OPSS), latest version;

d) Ontario Provincial Standard Drawings (OPSD), latest version;

e) Canadian General Standards Board (CGSB), latest version;

f) Canadian Standards Association (CSA), latest version;

g) American National Standards Institute (ANSI), latest version; and

h) Telecommunications Industry Association (TIA), latest version.

# 3. Installation Parameters

## 3.1 SPOS and Peripherals

3.1.1 Figure 1 shows the general view of the SPOS and the peripherals.

**Figure 1: SPOS and Peripherals – General View**

3.1.2 Table 3 shows the SPOS dimensional parameters, weight, associated peripheral devices, networking devices, and mounting surfaces.

**Table 3: Dimensional and Weight Parameters**

| Name | Height (mm) | Width (mm) | Depth (mm) | Weight (kg) | Power (Units Vary per Each Item) |
|---|---|---|---|---|---|
| Elo Touch Tablet | 28.3 | 386.74 | 248.17 | 1.59 | I00-240 VAC 60 Hz |
| Expansion Module | 26 | 119 | 147 | 0.57 | 12V (1.5A) Powered USB;<br>24V (2.3A) Powered USB;<br>Serial COM Port (RJ45);<br>5V USB 2.0 (x2);<br>19V DC IN. |
| Mounting Surfaces (both) | 100 | 100 | N/A | 0.454 (Tabletop) | N/A |
| Printer | 155 | 155 | 203 | 1.7 | I00-240 VAC 60 Hz |
| Pinpad Moneris | 175 | 75 | 35 | 0.267 | Powered RS 232:<br>5V or 12V<br>Powered Ethernet: POE Compliant with 802.3af |
| Card Reader | 44.45 | 126.5 | 140.21 | 0.238 | 5V USB Powered |
| DIGI WR44 | 48 | 254 | 140 | 1.1 | 9 – 36 VDC |
| NEMA Box | 76.2 | 304.8 | 203.2 | - | N/A |

# 3.2 Mounting Options

3.2.1 The process of mounting SPOS onto both stand types is similar.

3.2.2 Mounting Option 1 – Mounting Arm

3.2.2.1 Option 1 consists of an Elo Tablet with an expansion module attached to the back and then mounted onto the flat surface plate of the mounting arm.

**Figure 2: Mounting Option 1 – Mounting Arm**

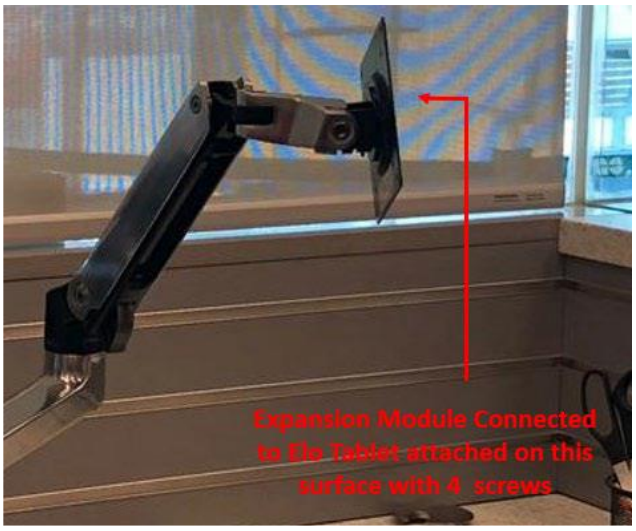



**Figure 3: Mounting Option 1 – Mounting Arm with Expansion Module**

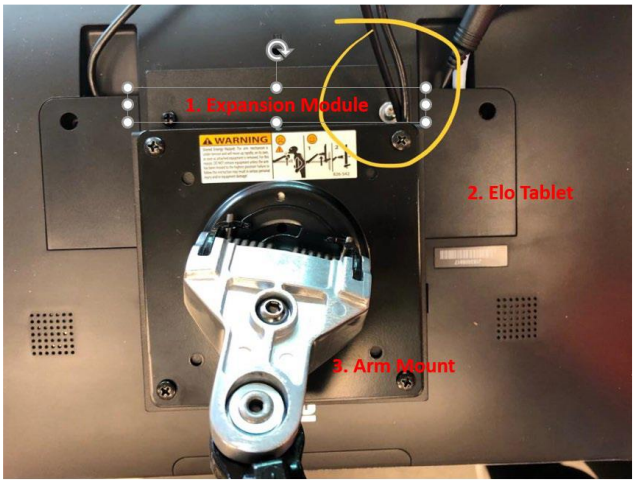
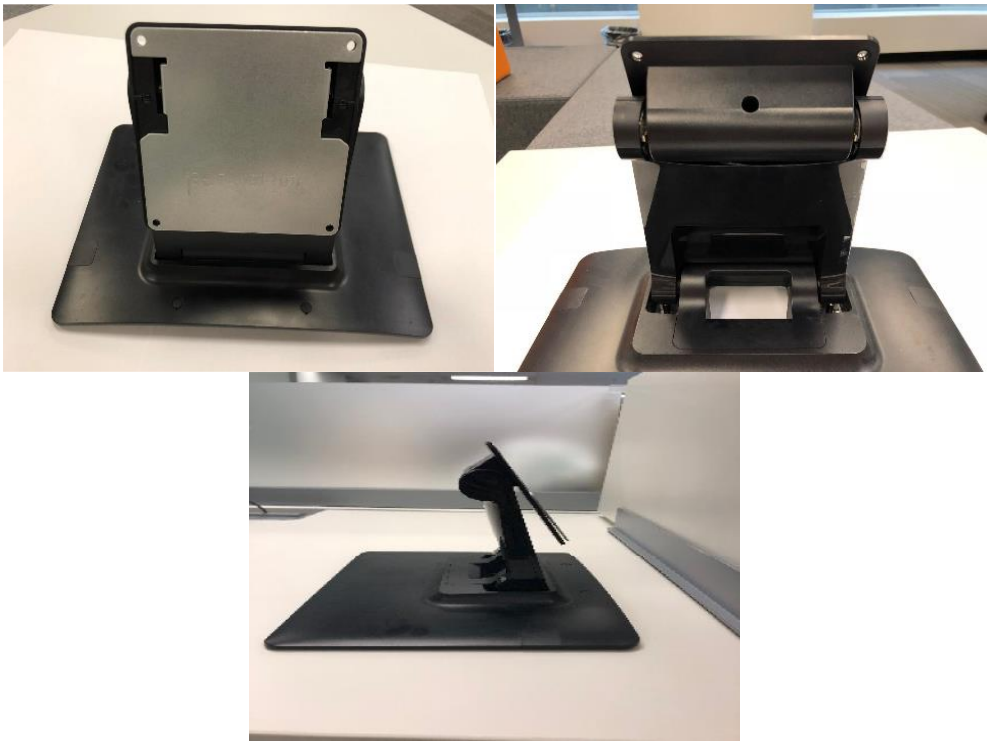


**Figure 4: Mounting Option 1 – Mounting Arm with Expansion Module (Side View)**

3.2.3 Mounting Option 2 – Tabletop Stand

3.2.3.1 Option 2 consists of an Elo Tablet attached to the tabletop stand.

**Figure 5: Mounting Option 2 – Tabletop Stand**

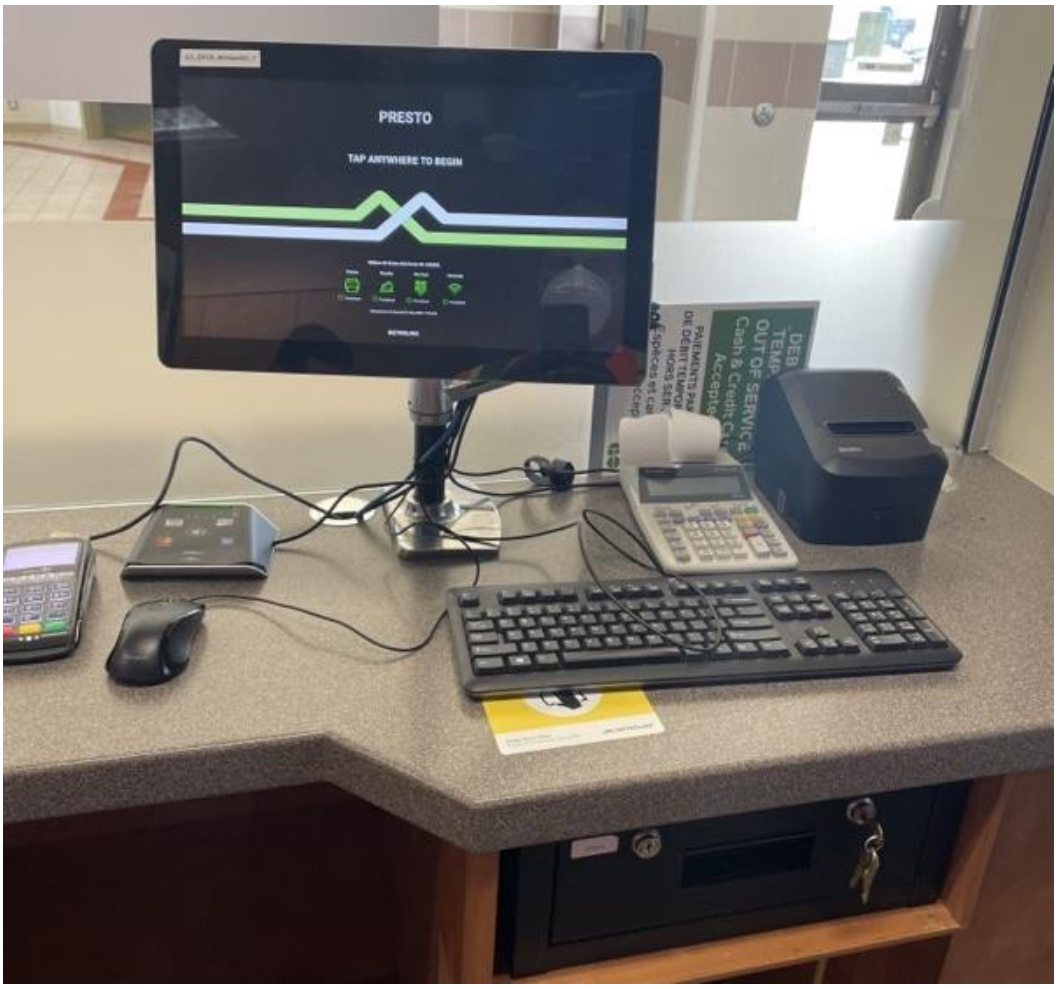


# 3.3 Fully Installed SPOS

3.3.1 The fully installed SPOS is shown in the following Figures.

**Figure 6: Fully Installed SPOS – Tabletop Stand**

**Figure 7: Fully Installed SPOS – Mounting Arm**



# 3.4 Station Booth: GO SPOS Requirements

**Table 4: GO SPOS Requirements**

| Demarcation to Device | Requirements |
|---|---|
| Description | This device is a Station Point of Sale device; It will be installed inside the GO Station ticket booth.<br>The SPOS Elo Tablet mounting has two options:<br>Option 1 is mounting the Elo Tablet onto a monitor arm;<br>Option 2 is mounting the Elo Tablet onto a tabletop stand.<br>(See section 3.2 for details)<br>**Note:**<br>The DIGI WR44 identified in Figure 1 is not used for GO or UP Express. A wireless router (provided by ITFS) can be used at selected GO Station locations where standard Metrolinx network infrastructure is unavailable.<br>Power and data connections shall meet or exceed Metrolinx I&IT / ITFS Standards. Consult the following documents:<br>1. The latest version of the *Innovation & Information Technology Telecommunication and Systems Standard*; and<br>2. *Electrical Identification and Nomenclature Specification*. |
| Wire Run for Power | Pull power wires through a completed conduit from the power demarcation to the station booth.<br>The wires shall be pulled in power conduits from UPS backed-up power panels in the communications rooms or mini-hub rooms. |
| Power Wires Requirement (rating) | SPOS: 135 watts max.<br>One dedicated 20A breaker/circuit for dual power receptacle per device.<br>Provide dedicated neutral.<br>Provide dedicated ground. |
| Termination of Power Wires | One dual 20A power receptacle.<br>For safety and security, label Power Distribution Panels and power receptacles ~6 inches from both wire ends; |

| | |
|---|---|
| | Labelling (Denote "SPOS x PRESTO SPOS") where "x" is the SPOS identification. |
| Cables Run for Comms | Pull comms cables (two cables per device) through conduit, from demarcation to device/equipment end.<br>CAT 6 between demarcation and device/equipment shall not exceed 90 m (300 ft), and within conduit; cabling shall be dedicated and not shared.<br>Two CAT 6 cable runs per device (One for the main PRESTO connection / One for the payment terminal connection). |
| UPS | SPOS devices are not equipped with an internal UPS.<br>The internal backup battery only allows devices to close current transactions and perform a scheduled shutdown.<br>All SPOS shall be connected to UPS backed-up power panels in communication rooms.<br>Consult the latest version of the *Innovation & Information Technology Telecommunication and Systems Standard*" for details. |
| Comms Cable<br>(CAT 6) | CMR Category 6 U/UTP, four twisted pair 22-24AWG.<br>All communication cables shall comply with ANSI/TIA-568-B.2 comms connectivity with ends terminated.<br>Protect all terminations from exposure, covered with an enclosure if necessary.<br>Mini-hub rooms shall be used to span beyond the 90 m limitations of the CAT 6.<br>All cables used in conduits shall be outdoor rated, and any cables installed in underground conduits or duct banks shall be burial-rated cable grade.<br>Outdoor copper cabling shall be CAT 6 outdoor rated when installed in conduit, and any cables installed in conduits or duct banks shall be of burial-rated cable grade.<br>Power and data connections shall meet or exceed Metrolinx I&IT / ITFS Standards.<br>Consult the latest version of the *Innovation & Information Technology (I&IT) Telecommunication and Systems Standard* for details. |

| | |
|---|---|
| Termination of Comms Cables | Cat 6 termination type from comms demarcation: Inwall Female Ethernet receptacle (1x).<br>For safety and security, label network patch panels ~6 inches from both cable ends; Labeling (Denote "PBooth" for PRESTO Booth). |
| Wireless Solution | If a LAN connection is unavailable, SPOS can be equipped with a wireless cellular ( LTE) router.<br>Consult with ITFS and the PRESTO team when planning for installation at such locations. |
| Service Coil | 1.5m (5 ft) or longer CAT 6 patchcord.<br>Power: Wall outlet<br>Comms: Wall outlet |
| Data Cable Labeling | For safety and security:<br>1. Label network patch panels ~6 inches from both cable ends; Labeling (Denote "SPOS 1" for PRESTO vending 1 and "SPOS1-SPARE" for secondary PRESTO vending cable); and<br>2. Cables shall be protected with an enclosure if necessary.<br>Post-installation data cables shall be updated with device Identification (ID) at the device level and in the patch panel. |
| Comms Cable Readiness (Cable Integrity/Continuity) | Cable Test Report or equivalent to validate comms continuity. |

# 4. Handover And Commissioning

## 4.1 Handover and Commissioning

4.1.1 The final handover of all new assets to Metrolinx shall follow the Rail Corridor Asset Handover Protocol.

– End of Document –