Design your automated transaction system using Omron’s reliable and cost-effective magnetic stripe and IC card readers. Choose from our large selection of swipe readers, insertion readers, and motorized card readers/encoders.
Please turn to the following pages for a more in-depth look at card reader options.

### Selection Guide

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<tr>
<th><strong>Motorized</strong></th>
<th><strong>Insert (DIP)</strong></th>
<th><strong>Swipe</strong></th>
</tr>
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<tr>
<td><strong>MAG stripe only</strong></td>
<td><strong>Hybrid</strong></td>
<td><strong>IC only</strong></td>
</tr>
<tr>
<td>MCRN *</td>
<td>MMF **</td>
<td>HKS **</td>
</tr>
<tr>
<td>Compact, low-cost</td>
<td>Low-cost</td>
<td>Stand-alone</td>
</tr>
<tr>
<td>Read 1, 3</td>
<td>R/W 1</td>
<td>Read 1, 2</td>
</tr>
<tr>
<td>MKF **</td>
<td>MFW *</td>
<td>HSR *</td>
</tr>
<tr>
<td>Versatile, powerful</td>
<td>Low-cost</td>
<td>Low-power</td>
</tr>
<tr>
<td>R/W 3</td>
<td>R/W 1</td>
<td>Read 1, 2</td>
</tr>
<tr>
<td>MKS **</td>
<td>MFV **</td>
<td>HNR *</td>
</tr>
<tr>
<td>Versatile, powerful</td>
<td>Inteligent, powerful</td>
<td>Low-power</td>
</tr>
<tr>
<td>R/W 3, IC</td>
<td>R/W 3, IC</td>
<td>Read 1, 2</td>
</tr>
<tr>
<td>MKW **</td>
<td>MFZ **</td>
<td>HNZ *</td>
</tr>
<tr>
<td>Versatile, powerful</td>
<td>Low-cost</td>
<td>Low-profile</td>
</tr>
<tr>
<td>R/W 1, 2, 3</td>
<td>R/W center stripe</td>
<td>Read 2, R/W 1</td>
</tr>
<tr>
<td>MZW **</td>
<td>MFW *</td>
<td>HZS *</td>
</tr>
<tr>
<td>Compact</td>
<td>Low-cost</td>
<td>Ultra-thin</td>
</tr>
<tr>
<td>R/W center stripe</td>
<td>R/W 1</td>
<td>Read 2, 3</td>
</tr>
</tbody>
</table>

#### Available Interfaces

* TTL-compatible
** Built-in RS-232C
*** TTL-compatible, RS-232C available
**** TTL-compatible, RS-232C available 1997

#### Available Track Configuration

1. Single track (1, 2, or 3)
2. Double track (1/2 or 2/3)
3. Triple track (1, 2, and 3)
<table>
<thead>
<tr>
<th>MODEL</th>
<th>HKS</th>
<th>HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>110 L x 100 W x 32 H mm (4.33 L x 3.94 W x 1.26 H in)</td>
<td>With Cover 90 L x 28 W x 26.5 H mm (3.54 L x 1.10 W x 1.04 H in)</td>
</tr>
<tr>
<td>Magnetic Card Type</td>
<td>ISO 7810-7813</td>
<td>ISO 7810-7813</td>
</tr>
<tr>
<td>Magnetic Track Configuration</td>
<td>Single or double</td>
<td>Single, double, or triple</td>
</tr>
<tr>
<td>IC Card Type</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Signal Interface</td>
<td>RS-232C</td>
<td>TTL (CMOS)</td>
</tr>
<tr>
<td>Card Feed Speed</td>
<td>10 to 120 cm/sec (4 to 47 in/sec)</td>
<td>10 to 120 cm/sec (4 to 47 in/sec)</td>
</tr>
<tr>
<td>Max. Power Consumption</td>
<td>75 mA at 12.5 VDC or 100 mA at 5 VDC</td>
<td>5 to 15 mA at 5 VDC</td>
</tr>
<tr>
<td>Operation Temperature</td>
<td>0° to 50° C (32° to 122° F)</td>
<td>-10° to 55°C (14° to 131°F)</td>
</tr>
<tr>
<td>Service Life</td>
<td>1,000,000 passes</td>
<td>300,000 passes min.</td>
</tr>
<tr>
<td>Color</td>
<td>Ivory</td>
<td>Ivory</td>
</tr>
<tr>
<td>I/O Interface</td>
<td>25-pin JAE connector</td>
<td>Solder pad, or 9- or 12-pin Molex connector</td>
</tr>
<tr>
<td></td>
<td>HNW</td>
<td>HSR</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>185 L x 48 W x 40 H mm</td>
<td>With Cover 100 L x 32.5 W x 32 H mm</td>
</tr>
<tr>
<td></td>
<td>(7.28 L x 1.89 W x 1.57 H in)</td>
<td>(3.94 L x 1.28 W x 1.26 H in)</td>
</tr>
<tr>
<td></td>
<td>Without Cover 100 L x 27 W x 29.5 H mm</td>
<td>Without Cover 100 L x 27 W x 29.5 H mm</td>
</tr>
<tr>
<td></td>
<td>(3.94 L x 1.06 W x 1.16 H in)</td>
<td>(3.94 L x 1.06 W x 1.16 H in)</td>
</tr>
<tr>
<td><strong>Manual Swipe Card Reader/Writer</strong></td>
<td><strong>Low-profile, convenient encoding.</strong></td>
<td><strong>Manual Swipe Card Reader</strong></td>
</tr>
<tr>
<td><strong>ISO 7810-7813</strong></td>
<td>ISO 7810-7813</td>
<td>ISO 7810-7813</td>
</tr>
<tr>
<td><strong>Read</strong></td>
<td>double, Write single</td>
<td>Single or double</td>
</tr>
<tr>
<td><strong>TTL (Bipolar)</strong></td>
<td>TTL (Bipolar)</td>
<td>TTL (Bipolar)</td>
</tr>
<tr>
<td><strong>Read</strong></td>
<td>10 to 120 cm/sec (4 to 47 in/sec)</td>
<td>10 to 150 cm/sec (4 to 59 in/sec)</td>
</tr>
<tr>
<td><strong>Write</strong></td>
<td>10 to 80 cm/sec (4 to 32 in/sec)</td>
<td>10 to 120 cm/sec</td>
</tr>
<tr>
<td><strong>Read</strong></td>
<td>25 mA at 5 VDC</td>
<td>25 to 50 mA at 5 VDC</td>
</tr>
<tr>
<td><strong>Write</strong></td>
<td>500 mA at 5 VDC</td>
<td></td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>-5° to 55° C (23° to 131°F)</td>
<td>-10° to 55° C (14° to 131° F)</td>
</tr>
<tr>
<td><strong>Passes</strong></td>
<td>300,000 passes min.</td>
<td>Single track: 300,000 passes min. Double track: 600,000 passes min.</td>
</tr>
<tr>
<td><strong>Connector</strong></td>
<td>15-pin Japan AMP connector</td>
<td>5- or 9-pin JAE connector</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Ivory</td>
<td>Black</td>
</tr>
</tbody>
</table>

**Note:** Miniature swipe card reader/writer.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>HZR</th>
<th>MCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>25.2 L x 98.2 W x 23.3 H mm (0.99 L x 3.87 W x 0.92 H in)</td>
<td>122 L x 90 W x 62 H mm (4.80 L x 3.54 W x 2.44 H in)</td>
</tr>
<tr>
<td>Description</td>
<td>Manual Swipe Card Reader Low-power, ultra-compact. Designed for space-limited applications.</td>
<td>Motor Driven Card Reader Compact with heavy duty construction. Handles either magnetic or IC cards.</td>
</tr>
<tr>
<td>Magnetic Card Type</td>
<td>ISO 7810-7813</td>
<td>ISO 7810-7813</td>
</tr>
<tr>
<td>Magnetic Track Configuration</td>
<td>Double or triple</td>
<td>Single</td>
</tr>
<tr>
<td>IC Card Type</td>
<td>—</td>
<td>7816/1-2</td>
</tr>
<tr>
<td>Signal Interface</td>
<td>TTL (CMOS)</td>
<td>TTL</td>
</tr>
<tr>
<td>Card Feed Speed</td>
<td>10 to 120 cm/sec (4 to 47 in/sec)</td>
<td>40 cm/sec (16 in/sec)</td>
</tr>
<tr>
<td>Max. Power Consumption</td>
<td>10-15 mA</td>
<td>100-700 mA (operating) 2 A (start-up)</td>
</tr>
<tr>
<td>Operation Temperature</td>
<td>-10° to 55° C (14° to 131° F)</td>
<td>-5° to 55° C (23° to 131° F)</td>
</tr>
<tr>
<td>Service Life</td>
<td>300,000 passes min.</td>
<td>MCRN: 1,000,000 passes MCR0X: 300,000 passes</td>
</tr>
<tr>
<td>Color</td>
<td>Black</td>
<td>Black</td>
</tr>
<tr>
<td>I/O Interface</td>
<td>9- or 10-pin Molex connector</td>
<td>26-pin BERG connector</td>
</tr>
</tbody>
</table>
### MKW, MKF, MKS

<table>
<thead>
<tr>
<th>With Shutter</th>
<th>211 L x 90 W x 65 H mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(8.31 L x 3.54 W x 2.56 H in)</td>
</tr>
<tr>
<td>Without Shutter</td>
<td>222 L x 98 W x 92 H mm</td>
</tr>
<tr>
<td></td>
<td>(8.74 L x 3.86 W x 3.62 H in)</td>
</tr>
</tbody>
</table>

**Motor Driven Card Reader/Writer**
- Handles both magnetic and IC cards.
- Recognizes any ISO track.
- Compact, accommodates warped or bent cards.

### MMW, MMF, MZW

<table>
<thead>
<tr>
<th>150 L x 50 W x 65 H mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>(5.91 L x 1.97 W x 2.56 H in)</td>
</tr>
</tbody>
</table>

**Motor Driven Card Reader/Writer**
- Compact and low cost.
- IC card reader/writer with horizontal insertion pulls card to correct position.

### MNW

<table>
<thead>
<tr>
<th>ISO 7810-7813</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single, double, or triple</td>
</tr>
<tr>
<td>ISO 7816/1,2</td>
</tr>
<tr>
<td>—</td>
</tr>
<tr>
<td>TTL (MKW)</td>
</tr>
<tr>
<td>RS-232C (MKF, MKS)</td>
</tr>
<tr>
<td>TTL (MMW, MZW)</td>
</tr>
<tr>
<td>—</td>
</tr>
<tr>
<td>RS-232C (MMF, MZF)</td>
</tr>
<tr>
<td>TTL</td>
</tr>
<tr>
<td>20 cm/sec (8 in/sec)</td>
</tr>
<tr>
<td>30 cm/sec (12 in/sec)</td>
</tr>
<tr>
<td>35 cm/sec (14 in/sec)</td>
</tr>
<tr>
<td>2.3 A at 24 VDC</td>
</tr>
<tr>
<td>1.5 A at 24 VDC</td>
</tr>
<tr>
<td>1.5 A at 24 VDC</td>
</tr>
<tr>
<td>-5° to 55°C (23° to 131°F)</td>
</tr>
<tr>
<td>0° to 45°C (32° to 113°F)</td>
</tr>
<tr>
<td>-10° to 50°C (14°F to 122°F)</td>
</tr>
<tr>
<td>1,200,000 passes min.</td>
</tr>
<tr>
<td>500,000 passes</td>
</tr>
<tr>
<td>200,000 passes min.</td>
</tr>
<tr>
<td>Black</td>
</tr>
<tr>
<td>Black</td>
</tr>
<tr>
<td>Black</td>
</tr>
<tr>
<td>Magnetic card: 50 pin 3M connector</td>
</tr>
<tr>
<td>IC card: 16-pin 9M connector</td>
</tr>
<tr>
<td>26- to 34-pin Hirose connector</td>
</tr>
<tr>
<td>15-pin connector</td>
</tr>
<tr>
<td>MODEL</td>
</tr>
<tr>
<td>-------</td>
</tr>
</tbody>
</table>
| **Dimensions** | 195 L x 82 W x 50 H mm  
(7.68 L x 3.23 W x 1.97 H in) | 210 L x 124 W x 90 H mm  
(8.27 L x 4.88 W x 3.54 H in) |
| **Description** | Motor Driven Card Reader/Writer  
Single track for prepaid magnetic cards. | Motor Driven Card Reader/Writer  
Compact and reliable. Handles both magnetic and IC cards. Incorporates automatic recognition of card protect for easy software development. |
| **Magnetic Card Type** | PET or paper | ISO 7810-7813 |
| **Magnetic Track Configuration** | Single, non-ISO | Triple |
| **IC Card Type** | — | ISO 7816/1-4 |
| **Signal Interface** | TTL | RS-232C |
| **Card Feed Speed** | 35 cm/sec  
(14 in/sec) | 5 or 20 cm/sec  
(2 or 8 in/sec) |
| **Max. Power Consumption** | 3 A at 24 VDC | 2 A at 24 VDC |
| **Operation Temperature** | 0° to 50° C  
(32° to 122° F) | 5° to 55° C  
(41° to 131° F) |
| **Service Life** | 500,000 passes | Entire unit: 1,500,000 passes  
IC contact: 300,000 passes |
| **Color** | Black | Black |
| **I/O Interface** | 26-pin connector | 4-pin Molex (power) or 9-pin JAE connector (RS-232C) |
## SBR
- **Size:** 87 L x 60 W x 21.5 H mm (3.43 L x 2.36 W x 0.85 H in)
- **Type:** Manual Insert Card Reader
- **Features:** Handles magnetic cards. Reads 62% of magnetic track.
- **ISO Standards:** ISO 7810-7813
- **Temperature Range:** -25°C to 75°C (-13°F to 167°F)
- **Performance:** 10 to 100 cm/sec. (4 to 39 in/sec)
- **Power Consumption:** Single track: 25 mA at 5 VDC
  - Double track: 50 mA at 5 VDC
- **Connector:** 10- or 12-pin JAE connector
- **Color:** Black

## SBRN
- **Size:** 78 L x 60 W x 21.5 H mm (3.07 L x 2.36 W x 0.85 H in)
- **Type:** Manual Insert Card Reader
- **Features:** Low power CMOS technology. Reads 62% of magnetic track.
- **ISO Standards:** ISO 7810-7813
- **Temperature Range:** -25°C to 75°C (-13°F to 167°F)
- **Performance:** 10 to 100 cm/sec. (4 to 39 in/sec)
- **Power Consumption:** 5 mA at 5 VDC
- **Connector:** 10-pin JAE connector
- **Color:** Black

## SCR
- **Size:** 78 L x 60 W x 13.5 H mm (3.07 L x 2.36 W x 0.53 H in)
- **Type:** Manual Insert Card Reader/Writer
- **Features:** IC card reader with slim profile.
- **ISO Standards:** ISO 7810-7813
- **Temperature Range:** -10°C to 55°C (-14°F to 131°F)
- **Performance:** 100 cm/sec (39 in/sec)
- **Power Consumption:** 1 to 10 mA at 30 VDC
- **Connector:** 10-pin Molex connector
- **Color:** Black
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SFR</th>
<th>SGR</th>
</tr>
</thead>
</table>
| **Dimensions** | 120 L x 60 W x 19.4 H mm (4.72 L x 2.36 W x 0.75 H in) | SGR\(\text{Q}\)N 126 L x 76 W x 25 H mm (4.96 L x 2.99 W x 0.98 H in)  
SGR\(\text{J, X}\) 126 L x 76 W x 30 H mm (4.96 L x 2.99 W x 1.18 H in) |
| **Description** | Manual Insert Card Reader  
Compact, handles both magnetic and IC cards. Reads 100% of up to 3 tracks. | Manual Insert Card Reader  
Compact, handles both magnetic and IC cards. |
| **Magnetic Card Type** | ISO 7810-7813 | ISO 7810-7813 |
| **Magnetic Track Configuration** | Single, double, or triple | Single, double, or triple |
| **IC Card Type** | ISO 7816/1,2 | ISO 7816/1-2 |
| **Signal Interface** | TTL, RS-232C optional | TTL, RS-232C optional |
| **Card Feed Speed** | 10 to 100 cm/sec (4 to 39 in/sec) | Not available |
| **Max. Power Consumption** | 70 mA at 5 VDC | 2.5 A at 5 VDC |
| **Operation Temperature** | -5° to 55° C (23° to 131° F) | 0° to 45° C (32° to 113°F) |
| **Service Life** | Magnetic head: 300,000 passes min.  
IC contact: 500,000 passes min. | Mag head: 300,000 passes  
IC contact: 500,000 passes |
<p>| <strong>Color</strong> | Black | Black |
| <strong>I/O Interface</strong> | 8- or 16-pin Molex connector | 26-pin connector |</p>
<table>
<thead>
<tr>
<th>SHR</th>
<th>SNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 L x 44.5 W x 6 H mm (2.36 L x 1.75 W x 0.24 H in)</td>
<td>124 L x 74 W x 59 H mm (4.88 L x 2.91 W x 2.32 H mm)</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>—</td>
<td>JIS II</td>
</tr>
<tr>
<td>ISO 7816/1-2</td>
<td>ISO 7816/1-2</td>
</tr>
<tr>
<td>TTL</td>
<td>RS-232C</td>
</tr>
<tr>
<td>100 cm/sec. (39 in/sec)</td>
<td>—</td>
</tr>
<tr>
<td>10 mA at 30 VDC</td>
<td>100 mA at 5 VDC</td>
</tr>
<tr>
<td>0° to 50°C (32° to 122°F)</td>
<td>0° to 50°C (32° to 122°F)</td>
</tr>
<tr>
<td>300,000 passes min.</td>
<td>300,000 passes</td>
</tr>
<tr>
<td>Black</td>
<td>Light gray</td>
</tr>
<tr>
<td>Mounts to PC bar by flexible cable</td>
<td>8-pin modular connector</td>
</tr>
</tbody>
</table>