Direct Operated 2/3 Port Isolated Valve

**Isolated Structure**
Solenoid drive body is separated from the fluid area by block seal.

- **Block seal**
  Material: EPDM, FKM
- **Shaft**
  Material: PPS
- **Poppet**
  Material: EPDM, FKM
- **Body**
  Material: PPS

**Easy piping**
- Body ported
- Bottom ported
- Side ported
- Base mounted

**Minimal dead space**
No fluids enter the seal groove.

- Current seal
  Fluids enter the seal groove.

- New
  No fluids enter the seal groove.

**Flow adjustment not required**
As the flow rate difference is 5% or less, no flow rate adjustment is required at inlet and outlet side.

**Flow rate difference**
5% or less

**LVMK20/200 Series**

---

**Low Particle Generation**
**Oil-free**
**Metal-free**

---

**New**
- Air
- Water

---

**RoHS**
**Application Examples**

Oil-free, clean, low particle generation applications

- Pure water purification equipment
- Semiconductor equipment (CMP equipment)
- Water processing facility (water quality analysis)
- Dental equipment etc.
- Water dispenser
- Beverage dispenser
- Immunity inspection device
- Blood analyzer
- Automatic faucet
- Liquid filling instrument
- Atmospheric pollution analyzer
- Ink dispenser
- Ion cleaner
- Dying machine etc.

**LVMK Series**

**Variations**

<table>
<thead>
<tr>
<th>Model</th>
<th>Valve type</th>
<th>Piping direction</th>
<th>Voltage</th>
<th>Fluid contact material</th>
</tr>
</thead>
<tbody>
<tr>
<td>LVMK21</td>
<td>N.C.</td>
<td>Bottom ported</td>
<td>24 VDC</td>
<td>Body: PPS</td>
</tr>
<tr>
<td>LVMK27</td>
<td>N.C.</td>
<td>Side ported</td>
<td>12 VDC</td>
<td>Seal: EPDM, FKM</td>
</tr>
<tr>
<td>LVMK202</td>
<td>Universal</td>
<td>Bottom ported</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LVMK207</td>
<td>Universal</td>
<td>Side ported</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LVMK23</td>
<td>N.C.</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LVMK205</td>
<td>Universal</td>
<td>—</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Direct Operated 2/3 Port Isolated Valve**

**LVMK20/200 Series**

### How to Order

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Number of ports</th>
<th>Valve type</th>
<th>Piping direction</th>
<th>Recommended tubing diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>2</td>
<td>N.C.</td>
<td>Bottom ported</td>
<td>I.D. 2 to 3.2 mm,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Side ported</td>
<td>O.D. after mounting</td>
</tr>
<tr>
<td>27</td>
<td>3</td>
<td>Universal</td>
<td>Bottom ported</td>
<td>8 mm or less</td>
</tr>
<tr>
<td>202</td>
<td></td>
<td></td>
<td>Side ported</td>
<td></td>
</tr>
<tr>
<td>207</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Body ported**

- **LVMK 202** - 5 J -

**Base mounted**

- **LVMK 205** - 5 J -

- **Lead wire length**
  - Nil: 300 mm
  - 6: 600 mm
  - 10: 1000 mm

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Body ported (Tubing type)</th>
<th>Base mounted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LVMK21</td>
<td>LVMK27</td>
</tr>
<tr>
<td>Valve construction</td>
<td>Direct operated poppet</td>
<td></td>
</tr>
<tr>
<td>Valve type</td>
<td>N.C.</td>
<td>Universal</td>
</tr>
<tr>
<td>Number of ports</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fluid</td>
<td>Air, Water, Deionized water, Diluent, Cleaning fluid</td>
<td></td>
</tr>
<tr>
<td>Operating pressure range</td>
<td>−90 kPa to 0.2 MPa</td>
<td></td>
</tr>
<tr>
<td>Orifice diameter</td>
<td>2 mm equivalent</td>
<td></td>
</tr>
<tr>
<td>Response time</td>
<td>16 ms or less (at pneumatic pressure)</td>
<td></td>
</tr>
<tr>
<td>Leakage</td>
<td>Zero leakage, either external or internal (at water pressure)</td>
<td></td>
</tr>
<tr>
<td>Proof pressure</td>
<td>0.3 MPa</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>5 to 50°C (No condensation)</td>
<td></td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>5 to 50°C</td>
<td></td>
</tr>
<tr>
<td>Mounting orientation</td>
<td>Free</td>
<td></td>
</tr>
<tr>
<td>Enclosure</td>
<td>IP40 equivalent</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>76 g</td>
<td>77 g</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>12, 24 VDC</td>
<td></td>
</tr>
<tr>
<td>Allowable voltage fluctuation</td>
<td>±10% of rated voltage</td>
<td></td>
</tr>
<tr>
<td>Type of coil insulation</td>
<td>Class B</td>
<td></td>
</tr>
<tr>
<td>Power consumption (When rated voltage is at 24 V)</td>
<td>3 W (0.125 A)</td>
<td></td>
</tr>
<tr>
<td>Coil switching noise</td>
<td>70 dB (A)</td>
<td></td>
</tr>
</tbody>
</table>

### Flow Rate Characteristics

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Kv</th>
<th>Cv</th>
<th>C</th>
<th>b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>0.055</td>
<td>0.065</td>
<td>0.23</td>
<td>0.27</td>
</tr>
<tr>
<td>Air</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1: Be sure to confirm the fluid compatibility in advance.
*2: Based on JIS B 8419-2010 (at ambient and fluid temperature of 25°C, supply pressure of 0.2 MPa, rated voltage, and when N.C. (IN) port is pressurized)
  - When poppet/seal material is FKM, if ambient temperature and fluid temperature is 10°C or less (guide), the response time will be longer.
*3: Indicates the pressure which does not generate breakage, cracks or external leakage after a one-minute airtight test.
*4: Indicates the pressure which does not generate breakage, cracks or external leakage after a one-minute airtight test.
*5: Indicates the pressure which does not generate breakage, cracks or external leakage after a one-minute airtight test.
*6: When residual liquid is considered, mounting in a vertical direction with the coil at the top is recommended. When residual liquid is not considered, any mounting orientation is available.
*7: When response ability is prioritized, the voltage should be rated voltage ±10%.
*8: The value is based on SMC’s measurement conditions. The noise level will vary with conditions.
*9: When lead wire length is 300 mm. For 600 mm, add 3 g, and for 1000 mm, add 7 g.
*10: Refer to 10 in “Design / Selection” on page 9, if the valve is to be energized continuously for extended periods of time.
**LVMK20/200 Series**

**Construction: Body Ported**

### LVMK27

1. Body A  
   Material: PPS

2. Body B  
   Material: PPS

3. Shaft  
   Material: PPS

4. Poppet  
   Material: EPDM, FKM

5. Seal  
   Material: EPDM, FKM

6. Block seal  
   Material: EPDM, FKM

### LVMK21

1. Body A  
   Material: PPS

2. Body B  
   Material: PPS

3. Shaft  
   Material: PPS

4. Poppet  
   Material: EPDM, FKM

5. Seal  
   Material: EPDM, FKM

6. Block seal  
   Material: EPDM, FKM

### LVMK207

1. Body A  
   Material: PPS

2. Body B  
   Material: PPS

3. Shaft  
   Material: PPS

4. Poppet  
   Material: EPDM, FKM

5. Seal  
   Material: EPDM, FKM

6. Block seal  
   Material: EPDM, FKM

### LVMK202

1. Body A  
   Material: PPS

2. Body B  
   Material: PPS

3. Shaft  
   Material: PPS

4. Poppet  
   Material: EPDM, FKM

5. Seal  
   Material: EPDM, FKM

6. Block seal  
   Material: EPDM, FKM

---

**Component Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body A</td>
<td>PPS</td>
</tr>
<tr>
<td>2</td>
<td>Body B</td>
<td>PPS</td>
</tr>
<tr>
<td>3</td>
<td>Shaft</td>
<td>PPS</td>
</tr>
<tr>
<td>4</td>
<td>Poppet</td>
<td>EPDM, FKM</td>
</tr>
<tr>
<td>5</td>
<td>Seal</td>
<td>EPDM, FKM</td>
</tr>
<tr>
<td>6</td>
<td>Block seal</td>
<td>EPDM, FKM</td>
</tr>
<tr>
<td>7</td>
<td>Spacer</td>
<td>PBT</td>
</tr>
<tr>
<td>8</td>
<td>Armature</td>
<td>—</td>
</tr>
<tr>
<td>9</td>
<td>Return spring</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>10</td>
<td>Mold coil</td>
<td>Molded material: PBT</td>
</tr>
<tr>
<td>11</td>
<td>Cover</td>
<td>NBR</td>
</tr>
<tr>
<td>12</td>
<td>Lead wire</td>
<td>—</td>
</tr>
</tbody>
</table>
Construction: Base Mounted

**LVMK23**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body A</td>
<td>PPS</td>
</tr>
<tr>
<td>2</td>
<td>Body B</td>
<td>PPS</td>
</tr>
<tr>
<td>3</td>
<td>Shaft</td>
<td>PPS</td>
</tr>
<tr>
<td>4</td>
<td>Poppet</td>
<td>EPDM, FKM</td>
</tr>
<tr>
<td>5</td>
<td>Seal</td>
<td>EPDM, FKM</td>
</tr>
<tr>
<td>6</td>
<td>Block seal</td>
<td>EPDM, FKM</td>
</tr>
<tr>
<td>7</td>
<td>Spacer</td>
<td>PBT</td>
</tr>
</tbody>
</table>

**LVMK205**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Armature</td>
<td>—</td>
</tr>
<tr>
<td>2</td>
<td>Return spring</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>3</td>
<td>Mold coil</td>
<td>Molded material: PBT</td>
</tr>
<tr>
<td>4</td>
<td>Cover</td>
<td>NBR</td>
</tr>
<tr>
<td>5</td>
<td>Lead wire</td>
<td>—</td>
</tr>
<tr>
<td>6</td>
<td>O-ring</td>
<td>EPDM, FKM</td>
</tr>
</tbody>
</table>

**Direct Operated 2/3 Port Isolated Valve LVMK20/200 Series**
Dimensions: Body Ported (Side Ported)

LVMK20/200 Series

LVMK27-□□□ □□□

LVMK207-□□□ □□□

Recommended tubing diameter:
I.D. ø2 to ø3.2, O.D. after mounting ø8 or less

Mounting force (holding force) varies depending on the tube material or dimensions, so please check that there is no problem with the leakage and mounting performance before use.
Dimensions: Body Ported (Bottom Ported)

LVMK21

---

2 x ø2.7
(For mounting)

---

LVMK202

---

For LVMK21: 2 locations
For LVMK202: 3 locations

Tubing insertion dimension

Recommended tubing diameter:
I.D. ø2 to ø3.2, O.D. after mounting ø8 or less

Mounting force (holding force) varies depending on the tube material or dimensions, so please check that there is no problem with the leakage and mounting performance before use.
**Dimensions: Base Mounted**

**LVMK20/200 Series**

---

2 x ø3.4 Mounting hole

---

12.6

34.4

21.6

---

13.5

11.2

8.2

---

20

UL1007

AWG22

---

2 x ø3.4 Mounting hole

---

12 x ø2.3 Effective thread length 4.5 or more

---

When mounting, pin to prevent mounting with incorrect orientation. Size should be ø2.5 and height should be 1 to 2.

---

Recommended interface dimension

*: Surface roughness = Rz3.2 or less

---

2 x ø2.3 C0.2 or less

---

Dimensions: Base Mounted

LVMK23-□□□

---

IN OUT

---

8

11
Direct Operated 2/3 Port Isolated Valve  **LVMK20/200 Series**

**Dimensions: Base Mounted**

**LVMK205-□□□**

Mounting hole 2 x ø3.4

Lead wire length 13.5 11.2 8.2

UL1007 AWG22

N.O. 11 N.C. COM.

2 x M3 x 0.5 Effective thread length 4.5 or more

When mounting; pin to prevent mounting with incorrect orientation.

Size should be ø2.5 and height should be 1 to 2.

*: Surface roughness = Rz3.2 or less

**Recommended interface dimension**

- Surface roughness = Rz3.2 or less

<table>
<thead>
<tr>
<th>Port</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.O.</td>
<td>6</td>
</tr>
<tr>
<td>N.C.</td>
<td>3</td>
</tr>
<tr>
<td>COM.</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>ø2.3</td>
</tr>
<tr>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>17.2</td>
</tr>
<tr>
<td>34.4</td>
<td>±0.1</td>
</tr>
<tr>
<td>8</td>
<td>±0.1</td>
</tr>
<tr>
<td>11</td>
<td>±0.1</td>
</tr>
<tr>
<td>6.3</td>
<td>±0.1</td>
</tr>
<tr>
<td>12.6</td>
<td>±0.1</td>
</tr>
<tr>
<td>21.6</td>
<td>±0.1</td>
</tr>
</tbody>
</table>

Notes:
- Dimensions: Base Mounted
- LVMK205-□□□
- UL1007 AWG22
- Effective thread length 4.5 or more
- When mounting; pin to prevent mounting with incorrect orientation.
- Size should be ø2.5 and height should be 1 to 2.
- Surface roughness = Rz3.2 or less
**LVMK Series**

**Specific Product Precautions 1**

Be sure to read this before handling the products. Please contact SMC when it is used in conditions other than the specifications.

---

### Design / Selection

**Warning**

1. Do not use this product in applications which may adversely affect human life (e.g. medical equipment connected to the human body for drip infusion).

2. Confirm the specifications.  
   Give careful consideration to the operating conditions such as the application, fluid and environment, and use within the operating ranges specified in this catalog.

3. Fluid  
   Be sure to confirm the compatibility between the component material and the fluid.

4. Maintenance space  
   The installation should allow sufficient space for maintenance activities.

5. Fluid pressure range  
   Fluid pressure should be within the allowable pressure range.

6. Ambient environment  
   Use within the allowable ambient temperature range. Be sure that the liquid or corrosive gas does not touch the external surface of the product.

7. Countermeasures against static electricity  
   Take measures to prevent static electricity since some fluids can cause static electricity.

8. Pressure (including vacuum) holding  
   It is not usable for an application such as holding the pressure (including vacuum) inside of a pressure vessel because air leakage is entailed in a valve.

9. Cannot be used as an emergency shutoff valve etc.
   The valves presented in this catalog are not designed for safety applications such as an emergency shutoff valve. If the valves are used in this type of system, other reliable safety assurance measures should also be adopted.

10. Extended periods of continuous energization  
    When a solenoid valve is continuously energized for long periods of time, temperature increase from coil heat release can result in worsening performance and shortened service life of the solenoid valve, as well as adverse effects on peripheral equipment in the vicinity. For this reason, when valves are to be continuously energized for extended periods, use a fan or take other measures to disperse heat and keep valve surface temperatures at 70°C or less.

   The table below shows reference values for continuously energized valves (single unit) when surface temperature is 70°C or less.

<table>
<thead>
<tr>
<th>Period of continuous energization</th>
<th>Duty ratio</th>
<th>Ambient temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 minutes or less</td>
<td>50% or less</td>
<td>25°C or less</td>
</tr>
</tbody>
</table>

   Note: Duty ratio: ON time/(ON time + OFF time)

   Please use a fan or take other measures to disperse heat and keep temperatures within the specified range when mounting the solenoid valves inside control panels, etc. Be especially careful when using three or more adjacent valves with manifolds and keeping them continuously energized for extended period, as this may result in dramatic increases in temperature.

11. Low temperature environments  
    When poppet/seal material is FKM, if ambient temperature and fluid temperature is 10°C or less (guide), the response time of the solenoid valve will be longer.

---

### Selection

**Caution**

- **Leakage voltage**  
  The leakage voltage should be 2% or less of the rated voltage. If the leakage voltage exceeds this value, valve may not turn OFF.

---

### Mounting

**Warning**

1. If air leakage increases or equipment does not operate properly, stop operation.

After mounting is completed, confirm that it has been done correctly by performing a suitable function test.

**Caution**

1. Always tighten threads with the proper tightening torque.

When mounting the solenoid valve, tighten it with the proper tightening torque shown below.

**Tightening Torque for Mounting the Solenoid Valve**

<table>
<thead>
<tr>
<th>Location</th>
<th>Model</th>
<th>Thread size</th>
<th>Proper tightening torque [N·m]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body ported, Side of the body (See Fig. 1 below.)</td>
<td>LVMK21, 27, 202, 207</td>
<td>M2.5</td>
<td>0.25 to 0.35</td>
</tr>
<tr>
<td>Body ported, Bottom of the body (See Fig. 2 below.)</td>
<td>LVMK27, 207</td>
<td>M3</td>
<td>0.4 to 0.6</td>
</tr>
<tr>
<td>Base mounted, Body mounting (See Fig. 3 below.)</td>
<td>LVMK23, 205</td>
<td>M3</td>
<td>0.4 to 0.6</td>
</tr>
</tbody>
</table>

Fig. 1 Thread size: M2.5  
Proper tightening torque: 0.25 to 0.35 N·m  
(Applicable model: LVMK21, 27, 202, 207)

Fig. 2 Thread size: M3  
Proper tightening torque: 0.4 to 0.6 N·m  
(Applicable model: LVMK27, 207)

Fig. 3 Thread size: M3  
Proper tightening torque: 0.4 to 0.6 N·m  
(Applicable model: LVMK23, 205)
Mounting

**Caution**

2. Mount the solenoid valve on the horizontal surface.
   Applicable model: LVMK21, 27, 202, 207 (Body ported)
3. Remove dust from the solenoid valve mounting surface completely.
   The surface roughness of the mounting surface should be Rz3.2 or less.
   Applicable model: LVMK23, 205 (Base mounted)
4. When mounting the solenoid valves next to each other, P (pitch) should be 23 mm or more. (See the figure.)
   Applicable model: LVMK23, 205 (Base mounted)

Fluid Quality

**Warning**

Liquid (chemicals)
Component crystallizes or clots depending on its nature. Leakage will occur when a crystallized or clotted component is caught between the sealing parts. Take measures to clean such component if necessary.

Water
Install a filter strainer of about 100 mesh on the inlet side of the piping.

Air
Compressed air filtered with a filter with filtration rating of 5 μm or less, which is mounted on the inlet side of the piping, should be used.

Operating Environment

**Warning**

1. Do not use in explosive atmospheres.
2. Do not use in locations subject to excessive vibration or impact.
   Impact resistance of this solenoid valve is 150 m/s². Vibration resistance of this solenoid valve is 30 m/s².
3. Do not use in locations where radiated heat will be received from nearby heat sources.
4. Do not expose the solenoid valve to direct sunlight.
   (Including storage environment.)

Maintenance

**Warning**

1. Removing the product
   Shut off the fluid supply and release the fluid pressure in the system. Shut off the power supply. Remove the product.
2. Before operating, remove residual chemicals and completely replace it with deionized water, air, etc.
3. Do not disassemble the product.
   Products which have been disassembled cannot be guaranteed. If disassembly is necessary, please contact SMC.
**Safety Instructions**

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “Caution,” “Warning” or “Danger.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1, and other safety regulations.

**Caution:** Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

**Warning:** Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

**Danger:** Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

---

**Warning**

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

   Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

   The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

   1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
   2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
   3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

   1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
   2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
   3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
   4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

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**Limited warranty and Disclaimer/Compliance Requirements**

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”. Read and accept them before using the product.

**Limited warranty and Disclaimer**

1. The product is provided for use in manufacturing industries.

   The product herein described is basically provided for peaceful use in manufacturing industries. If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary. If anything is unclear, contact your nearest sales branch.

2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

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**Compliance Requirements**

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.

2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

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**Safety Instructions**

Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.