PCI Express Gigabit Ethernet Multi Mode SC Fiber Network Card

User Manual
SKU#: PEX1000MMSC2

For the latest information and specifications visit
www.startech.com/PEX1000MMSC2

Manual Revision: 04/27/2022
**Compliance Statements**

**FCC Compliance Statement**
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

**Industry Canada Statement**
This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada. CAN ICES-3 (B)/NMB-3(B).

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes:
(1) L’appareil ne doit pas produire de brouillage, et (2) l’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.

**For the State of California**

⚠️ **WARNING:** Cancer and Reproductive Harm [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)
Use of Trademarks, Registered Trademarks, and other Protected Names and Symbols

This manual may make reference to trademarks, registered trademarks, and other protected names and/or symbols of third-party companies not related in any way to StarTech.com. Where they occur these references are for illustrative purposes only and do not represent an endorsement of a product or service by StarTech.com, or an endorsement of the product(s) to which this manual applies by the third-party company in question. Regardless of any direct acknowledgement elsewhere in the body of this document, StarTech.com hereby acknowledges that all trademarks, registered trademarks, service marks, and other protected names and/or symbols contained in this manual and related documents are the property of their respective holders. Safety Statements

Safety Measures

• Wiring terminations should not be made with the product and/or electric lines under power.
• Product installation and/or mounting should be completed by a certified professional as per the local safety and building code guidelines.
• Cables (including power and charging cables) should be placed and routed to avoid creating electric, tripping or safety hazards.

Mesures de sécurité

• Les terminaisons de câblage ne doivent pas être effectuées lorsque le produit et/ou les câbles électriques sont sous tension.
• L’installation et/ou le montage du produit doit être réalisé par un professionnel certifié et dans le respect des normes locales et du code de construction local.
• Les câbles (y compris les câbles d’alimentation et de chargement) doivent être placés et acheminés de façon à éviter tout risque électrique, de chute ou de sécurité

安全対策

• 電源が入っている状態の製品または電線の終端処理を行わないでください。
• 製品の設置やマウントは、使用地域の安全ガイドラインおよび建築基準に従い、有資格の専門業者が行うようにしてください。
• ケーブル（電源ケーブルと充電ケーブルを含む）は、適切な配置と引き回しを行い、電気障害やつまづきの危険性など、安全上のリスクを回避するよう
Misure di sicurezza

- I terminali dei fili elettrici non devono essere realizzate con il prodotto e/o le linee elettriche sotto tensione.
- L’installazione e/o il montaggio dei prodotti devono essere eseguiti da un tecnico professionale certificato che conosca le linee guida locali sulle norme edilizie e sulla sicurezza.
- I cavi (inclusi i cavi di alimentazione e di ricarica) devono essere posizionati e stesi in modo da evitare pericoli di inciampo, rischi di scosse elettriche o pericoli per la sicurezza.

Säkerhetsåtgärder

- Montering av kabelavslutningar får inte göras när produkten och/eller elledningarna är strömförda.
- Installation och/eller montering får endast göras av behöriga yrkespersoner och enligt gällande lokala förordningar för säkerhet och byggnormer.
- Kablar (inklusive elkablar och laddningskablar) ska dras och placeras på så sätt att risk för snubblingsolyckor och andra olyckor kan undvikas.

Warning Statements

Make sure to assemble this product according to the instructions. Failure to do so might result in personal injury or property damage.

Never use this product if parts are missing or damaged.
# Table of Contents

Compliance Statements ........................................................................................................ 1
Safety Statements .................................................................................................................... 2
Warning Statements ................................................................................................................ 3
Product Information ................................................................................................................ 5
  Packaging Contents .................................................................................................................. 5
  System Requirements ............................................................................................................. 5
Product Diagram ....................................................................................................................... 6
  Card ........................................................................................................................................... 6
  Jumper ..................................................................................................................................... 6
Installation ................................................................................................................................ 7
  Hardware Installation ............................................................................................................. 7
  Driver Installation ................................................................................................................... 8
Software Utility ........................................................................................................................ 9
Connecting to a Network .......................................................................................................... 10
  Network Configuration ......................................................................................................... 10
  Card to Card Direct Configuration ....................................................................................... 11
LEDs ......................................................................................................................................... 12

To view manuals, videos, drivers, downloads, technical drawings, and more visit www.startech.com/support
Product Information

Packaging Contents
- Port PCI Express Gigabit Fiber Network Card x 1
- Low Profile Bracket x 1
- Instruction Manual x 1

System Requirements
- Computer with an available PCI Express Slot (x1, x4, x8, or x16)
Product Diagram

Card

![Card Diagram]

- Link LED
- Fiber Optic SC Female
- Activity LED

Jumper

![Jumper Diagram]

- JP2 Jumper

To view manuals, videos, drivers, downloads, technical drawings, and more visit www.startech.com/support
Installation

Hardware Installation

**WARNING!** PCI Express cards, like all computer equipment, can be severely damaged by static electricity. Be sure that you are properly grounded before opening your computer case or touching your PCI Express card. StarTech.com recommends that you wear an anti-static strap when installing any computer component. If an anti-static strap is unavailable, discharge yourself of any static electricity build-up by touching a large grounded metal surface (such as the computer case) for several seconds. Also be careful to handle the PCI Express card by its edges and not the gold connectors.

1. Turn your computer off and any peripherals connected to the computer (i.e. Printers, external hard drives, etc.). Unplug the power cable from the rear of the power supply on the back of the computer and disconnect all peripheral devices.

2. Remove the cover from the computer case. See documentation for your computer system for details.

3. Locate an open PCI Express slot and remove the metal cover plate on the rear of the computer case (Refer to documentation for your computer system for details).

   **Note:** This card will work in PCI Express slots of additional lanes (i.e. x4, x8, or x16 slots).

4. Gently insert the card into the open PCI Express slot and fasten the bracket to the rear of the case.
Note: If installing the card into a small form factor/low profile system, replacing the pre-installed full profile bracket with the included low profile installation bracket may be necessary.

5. Place the cover back onto the computer case.

6. Insert the power cable into the socket on the power supply and reconnect all other connectors removed in Step 1.

**Driver Installation**

Note: The card may auto-install using native drivers; however, it is recommended to use the latest drivers version provided on StarTech.com’s website.

1. **Navigate** to [www.startech.com/PEX1000MMSC2](http://www.startech.com/PEX1000MMSC2)

2. **Click** the **Drivers & Downloads** tab.

3. Under **Driver(s)**, download the **Driver** corresponding to the **Operating System**.

4. **Extract** the contents of the **Driver Package**.

5. **Open** the corresponding folder that matches the **Operating System Version**.

6. For Windows and macOS systems, **Execute** the **Installer** to finish installing the driver. For Linux systems, follow the instructions on the accompanying **README.txt** file to finish installing the driver.
Software Utility

For Windows systems, the PCI Express Fiber Gigabit Ethernet Adapter also includes an optional monitoring and maintenance software utility that provides access to configuration settings, testing, and reporting statistics.

To download the software, follow the instructions from the Driver Installation section.

To install the software, follow these steps:

1. **Navigate** to the extracted **Windows Drivers Folder** from the **Driver Installation** section.

2. **Open** the **Diagnostic Tools** folder.

3. **Open** the corresponding folder that matches the **Operating System Version**.

4. **Execute** the **setup.exe** to finish the installation.

*Ethernet Diagnostic Utility screen*
Connecting to a Network

Network Configuration

For connector type, cabling requirements, and maximum segment distance when connecting the PCI Express Gigabit Ethernet Adapter to your network, please refer to the following table:

<table>
<thead>
<tr>
<th>Speed</th>
<th>Connector</th>
<th>Port Speed Half/Full Duplex</th>
<th>Cable</th>
<th>Max. Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000Base-SX</td>
<td>SC</td>
<td>2000 Mbps</td>
<td>MMF (62.5μm)</td>
<td>220 m</td>
</tr>
<tr>
<td>1000Base-SX</td>
<td>SC</td>
<td>2000 Mbps</td>
<td>MMF (50μm)</td>
<td>550 m</td>
</tr>
</tbody>
</table>

1. Remove the protective covers from the PCI Express Fiber Gigabit Ethernet Adapter’s connector.

2. Prepare a network cable with the corresponding “SC” connectors for the two end devices. One end to the PCI Express Fiber Gigabit Ethernet Adapter and the other to a 1000Mbps fiber port on the network switch.

3. Connect the network cable to the connector on the PCI Express Fiber Gigabit Ethernet Adapter. This network cable consists of two individual cables: one for “transmission (TX)”, and the other for “reception (RX)”.

4. Connect the other end of the network cable to a 1000BASE-SX switch.
5. Insert the cable that is connected to the transmit (TX) connector on the PCI Express Fiber Gigabit Ethernet Adapter into the receive (RX) connector on the network switch.

6. Insert the cable that is connected to the receive (RX) connector on the PCI Express Fiber Gigabit Ethernet Adapter into the transmit (TX) connector on the network switch.

7. When the cable is properly connected to two end devices, turn on the power to the PC.

8. Check the LNK (Link) LED. The LED will come on when the PCI Express Fiber Gigabit Ethernet Adapter is receiving a good link signal from the connected device, or switch.

Card to Card Direct Configuration

The PCI Express Fiber Gigabit Ethernet Adapter allows for a card-to-card direct fiber connection. One adapter should be set to “auto negotiation mode” while the other should be set to “1000 Mbps full duplex mode” when two card adapters are connected to each other via fiber connectors.

Follow the below jumper settings to create a direct configuration:

1. **Auto negotiation (default setting):** Set the JP2 jumper configuration for “Card A” to jumper position “2 and 3.”

2. **1000Mbps full duplex:** Set the JP2 jumper configuration for “Card B” to jumper position “1 and 2.”
## LEDs

<table>
<thead>
<tr>
<th>LED</th>
<th>Status</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNK (Link)</td>
<td>Steady</td>
<td>A valid network connection established</td>
</tr>
<tr>
<td>(Green)</td>
<td>Off</td>
<td>No network connection</td>
</tr>
<tr>
<td>ACT (Activity)</td>
<td>Flashing</td>
<td>Transmitting or receiving data</td>
</tr>
<tr>
<td>(Yellow)</td>
<td>Off</td>
<td>No activity</td>
</tr>
</tbody>
</table>
Technical Support

StarTech.com’s lifetime technical support is an integral part of our commitment to provide industry-leading solutions. If you ever need help with your product, visit www.startech.com/support and access our comprehensive selection of online tools, documentation, and downloads.
For the latest drivers/software, please visit www.startech.com/downloads

Warranty Information

This product is backed by a two-year warranty.
StarTech.com warrants its products against defects in materials and workmanship for the periods noted, following the initial date of purchase. During this period, the products may be returned for repair, or replacement with equivalent products at our discretion. The warranty covers parts and labor costs only.
StarTech.com does not warrant its products from defects or damages arising from misuse, abuse, alteration, or normal wear and tear.

Limitation of Liability

In no event shall the liability of StarTech.com Ltd. and StarTech.com USA LLP (or their officers, directors, employees or agents) for any damages (whether direct or indirect, special, punitive, incidental, consequential, or otherwise), loss of profits, loss of business, or any pecuniary loss, arising out of or related to the use of the product exceed the actual price paid for the product.
Some states do not allow the exclusion or limitation of incidental or consequential damages. If such laws apply, the limitations or exclusions contained in this statement may not apply to you.
Hard-to-find made easy. At StarTech.com, that isn’t a slogan. It’s a promise.

StarTech.com is your one-stop source for every connectivity part you need. From the latest technology to legacy products — and all the parts that bridge the old and new — we can help you find the parts that connect your solutions. We make it easy to locate the parts, and we quickly deliver them wherever they need to go. Just talk to one of our tech advisors or visit our website. You’ll be connected to the products you need in no time.

Visit www.StarTech.com for complete information on all StarTech.com products and to access exclusive resources and time-saving tools.

StarTech.com is an ISO 9001 Registered manufacturer of connectivity and technology parts. StarTech.com was founded in 1985 and has operations in the United States, Canada, the United Kingdom and Taiwan servicing a worldwide market.

Reviews
Share your experiences using StarTech.com products, including product applications and setup, what you love about the products, and areas for improvement.

**StarTech.com Ltd.**  
45 Artisans Crescent  
London, Ontario N5V 5E9  
Canada

**StarTech.com LLP**  
4490 South Hamilton Road  
Groveport, Ohio 43125  
U.S.A.

**StarTech.com Ltd.**  
Unit B, Pinnacle 15  
Gowerton Road  
Brackmills, Northampton NN4 7BW  
United Kingdom

**StarTech.com Ltd.**  
Siriusdreef 17-27  
2132 WT  
Hoofddorp  
The Netherlands

FR: fr.startech.com  
DE: de.startech.com  
ES: es.startech.com  
IT: it.startech.com  
NL: nl.startech.com  
JP: jp.startech.com

To view manuals, videos, drivers, downloads, technical drawings, and more visit www.startech.com/support