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# USB Device
## Bus-Based Device Connectivity

### Serial Port

### Industrial USB Hub

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### CAN Frame Analyzer

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INDUSTRIAL CONNECTIVITY

**Multi-1/USB**

## »Features

- 1 Port USB to Serial Converter
- Supports USB 2.0 Full-Speed
- RS-232 or RS-422/485(Combo) Interface: 1 port
- Maximum Communication Speed: 921.6Kbps
- Display Communication Status through TX/RX LED
- Auto Toggling: Automatic control I/O of the Bus for RS-422/485
- Slew-rate Limit Control
- 15KV Surge Protection

## Overview

Easily and quickly add additional serial ports to your system through the USB port. The Multi-1/USB delivers maximum performance up to 921.6Kbps. It has all the necessary components for the serial communication that the developers do not require additional components to design the product. The USB to Serial Multi-ports support most Windows and Linux operating systems and include 15,000 volt surge suppression eliminating blown ports. There are RS232 and RS422/485 (Combo) models with DE-09 connector. Simply plug in the USB connector and you have a COM port to connect modems, printers, bar-code scanners or other any serial devices

### Auto Toggling

The Multi-1/USB has a built-in hardware feature that performs automatic toggling to prevent devices from sending data at the same time causing a crash. This operation is crucial when multiple devices are connected to prevent electrical collisions that lead to errors and unstable communication.

### Slew-Rate Limit Control

The Multi-1/USB is equipped with Slew Rate limit control for RS422/485 interface and when enabled it minimizes EMI emissions which may cause data transmission errors. When Slew Rate is used maximum communication speed is 250Kbps. This function is recommended in many medical applications.

## Specification

### USB Bus Interface

| Specification | USB Specification Rev. 2.0 Full-Speed |
|---|---|

### Serial

| Interface | RS232, RS422/485 (Combo) |
|---|---|
| Number of Ports | 1 |
| Maximum Speed | 921.6Kbps |
| Signal Lines | RS232: TXD, RXD, DTR, DSR, RTS, CTS, DCD, GND, RI<br>RS422: TXD+, TXD-, RXD+, RXD-<br>RS485: TRXD+, TRXD- |
| Surge Protection | Built-in ESD Protection: ±15KV |
| Flow Control | RTS/CTS, XON/XOFF |
| Data Crash Prevention | Auto Toggling |

### Hardware

| Controller | FT232R |
|---|---|
| Connector | DE-09P (DB9 Male) |

### Software

| Supported OS | Windows XP / 2003 / Vista / 2008 / 7 / 8 / 2012 (32/64 bit), Linux |
|---|---|
| Utility | TestView |

### Operating Environment

| Operating Temperature | 0 ~ 50 °C |
|---|---|
| Storing Temperature | -20 ~ 70 °C |
| Humidity | 5 ~ 95% Non-Condensing |

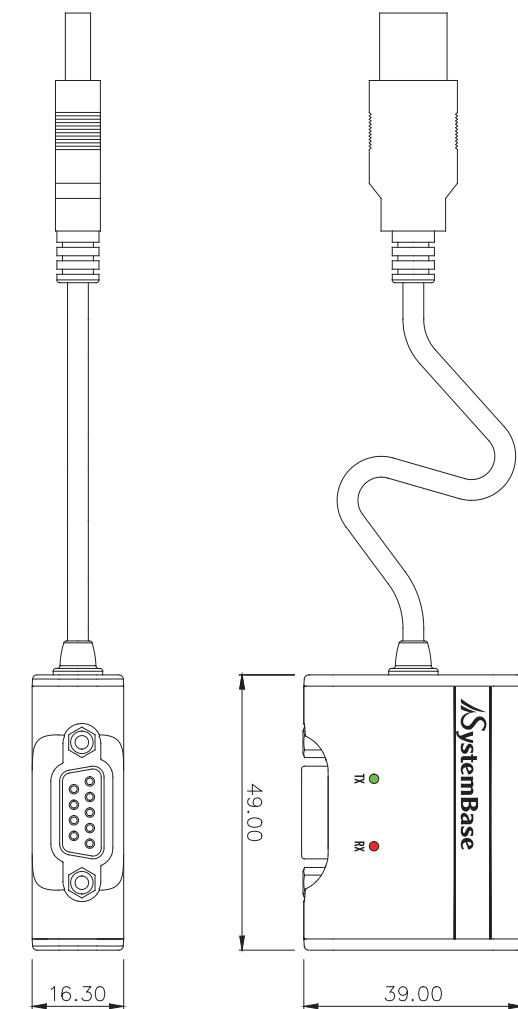### Certifications

| KC, CE, FCC |
|---|

## Ordering Information

| Multi-014D9MC/ 232 | Multi-1/USB RS232, Driver and Manual CD |
|---|---|
| Multi-014D9MC/Combo | Multi-1/USB Combo(RS422/RS485), Driver and Manual CD |
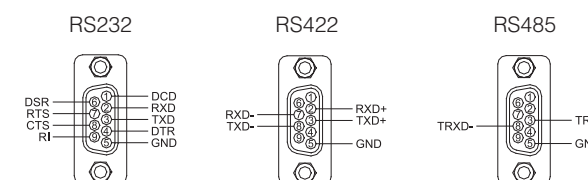
## Pin Assignment

RS232

DSR
RTS
CTS
RI

DCD
RXD
TXD
DTR
GND

RS422

RXD-
TXD-

RXD+
TXD+
GND

RS485

TRXD-

TRXD+
GND

## Dimension

49.00

16.30

39.00

unit : mm

**Sales** : marketing@sysbas.com
**Technical Support** : www.solvline.com

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Multi-2/USB

## Features

- 2 Ports USB to Serial Converter
- Supports USB 2.0 High-Speed
- RS-232 or RS-422/485(Combo) Interface: 2 ports
- Maximum Communication Speed: 921.6Kbps
- Display Communication Status through TX/RX LED
- Auto Toggling: Automatic control I/O of the Bus for RS-422/485
- Slew-rate Limit Control
- 15KV Surge Protection

## Overview

Easily and quickly add additional serial ports to your system through the USB port. The Multi-2/USB delivers maximum performance up to 921.6Kbps. It has all the necessary components for the serial communication that the developers do not require additional components to design the product. The USB to Serial Multi-ports support most Windows and Linux operating systems and include 15,000 volt surge suppression eliminating blown ports. There are RS232 and RS422/485 (Combo) models with DE-09 connectors. Simply plug in the USB connector and you have a COM port to connect modems, printers, bar-code scanners or other any serial devices

### Auto Toggling

The Multi-2/USB has a built-in hardware feature that performs automatic toggling to prevent devices from sending data at the same time causing a crash. This operation is crucial when multiple devices are connected to prevent electrical collisions that lead to errors and unstable communication.

### Slew-Rate Limit Control

The Multi-2/USB is equipped with Slew Rate limit control for RS422/485 interface and when enabled it minimizes EMI emissions which may cause data transmission errors. When Slew Rate is used maximum communication speed is 250Kbps. This function is recommended in many medical applications.

## Specification

### USB Bus Interface

| Specification | USB Specification Rev. 2.0 High-Speed |
|---|---|

### Serial

| Interface | RS232, RS422/485 (Combo) |
|---|---|
| Number of Ports | 2 |
| Maximum Speed | 921.6Kbps |
| Signal Lines | RS232: TXD, RXD, DTR, DSR, RTS, CTS, DCD, GND, RI RS422: TXD+, TXD-, RXD+, RXD- RS485: TRXD+, TRXD- |
| Surge Protection | Built-in ESD Protection: ±15KV |
| Flow Control | RTS/CTS, XON/XOFF |
| Data Crash Prevention | Auto Toggling |

### Hardware

| Controller | FT2232H |
|---|---|
| Connector | DE-09P (DB9 Male) |

### Software

| Supported OS | Windows XP / 2003 / Vista / 2008 / 7 / 8 / 2012 (32/64 bit), Linux |
|---|---|
| Utility | TestView |

## Operating Environment

| Operating Temperature | 0 ~ 50 °C |
|---|---|
| Storing Temperature | -20 ~ 70 °C |
| Humidity | 5 ~ 95% Non-Condensing |

### Certifications
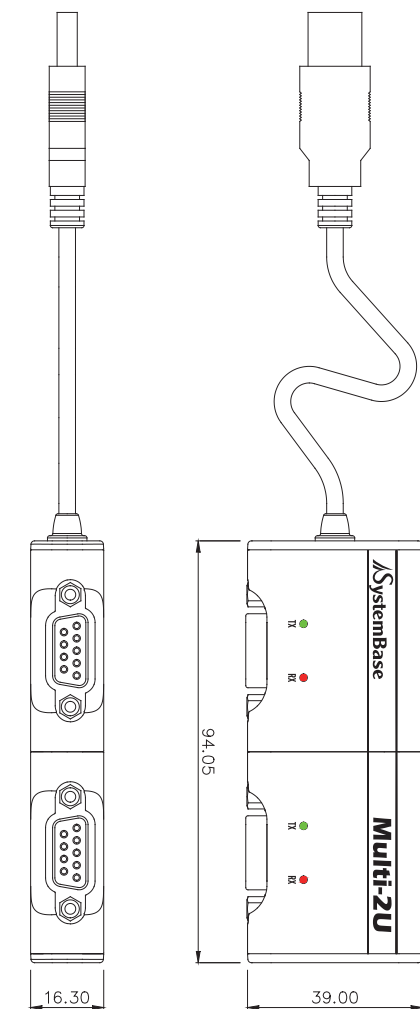
| KC, CE, FCC |
|---|

## Ordering Information

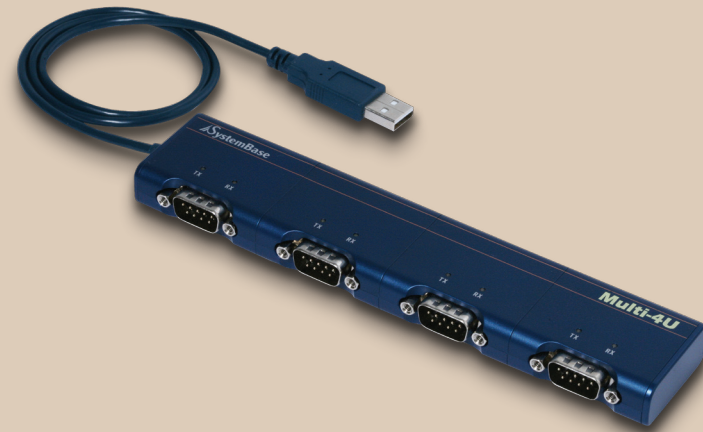| Multi-024D9MC/232 | Multi-2/USB RS232, Driver and Manual CD |
|---|---|
| Multi-024D9MC/Combo | Multi-2/USB Combo(RS422/RS485), Driver and Manual CD |
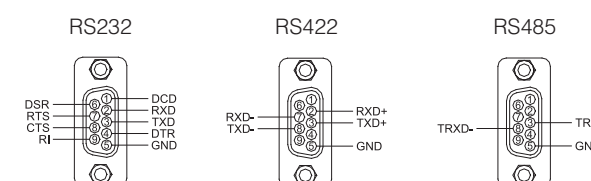
## Pin Assignment

RS232

DSR
RTS
CTS
RI

DCD
RXD
TXD
DTR
GND

RS422

RXD-
TXD-

RXD+
TXD+

GND

RS485

TRXD-

TRXD+

GND

## Dimension

94.05

16.30

39.00

unit : mm

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Technical Support : www.solvline.com

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INDUSTRIAL CONNECTIVITY

Multi-4/USB

# Multi-4/USB

921Kbps | 15K | Auto toggling | DE9M | USB | RoHS

## Features

- 4 Ports USB to Serial Converter
- Supports USB 2.0 High-Speed
- RS-232 or RS-422/485(Combo) Interface: 4 ports
- Maximum Communication Speed: 921.6Kbps
- Display Communication Status through TX/RX LED
- Auto Toggling: Automatic control I/O of the Bus for RS-422/485
- Slew-rate Limit Control
- 15KV Surge Protection

## Overview

Easily and quickly add additional serial ports to your system through the USB port. The Multi-4/USB delivers maximum performance up to 921.6Kbps. It has all the necessary components for the serial communication that the developers do not require additional components to design the product. The USB to Serial Multi-ports support most Windows and Linux operating systems and include 15,000 volt surge suppression eliminating blown ports. There are RS232 and RS422/485 (Combo) models with DE-09 connectors. Simply plug in the USB connector and you have a COM port to connect modems, printers, bar-code scanners or other any serial devices

### Auto Toggling

The Multi-4/USB has a built-in hardware feature that performs automatic toggling to prevent devices from sending data at the same time causing a crash. This operation is crucial when multiple devices are connected to prevent electrical collisions that lead to errors and unstable communication.

### Slew-Rate Limit Control

The Multi-4/USB is equipped with Slew Rate limit control for RS422/485 interface and when enabled it minimizes EMI emissions which may cause data transmission errors. When Slew Rate is used maximum communication speed is 250Kbps. This function is recommended in many medical applications.

## Specification

### USB Bus Interface

| Specification | USB Specification Rev. 2.0 High-Speed |
|---|---|

### Serial

| Interface | RS232, RS422/485 (Combo) |
|---|---|
| Number of Ports | 4 |
| Maximum Speed | 921.6Kbps |
| Signal Lines | RS232: TXD, RXD, DTR, DSR, RTS, CTS, DCD, GND, RI<br>RS422: TXD+, TXD-, RXD+, RXD-<br>RS485: TRXD+, TRXD- |
| Surge Protection | Built-in ESD Protection: ±15KV |
| Flow Control | RTS/CTS, XON/XOFF |
| Data Crash Prevention | Auto Toggling |

### Hardware

| Controller | FT4232H |
|---|---|
| Connector | DE-09P (DB9 Male) |

### Software

| Supported OS | Windows XP / 2003 / Vista / 2008 / 7 / 8 / 2012 (32/64 bit), Linux |
|---|---|
| Utility | TestView |

## Operating Environment

| Operating Temperature | 0 ~ 50 °C |
|---|---|
| Storing Temperature | -20 ~ 70 °C |
| Humidity | 5 ~ 95% Non-Condensing |

### Certifications

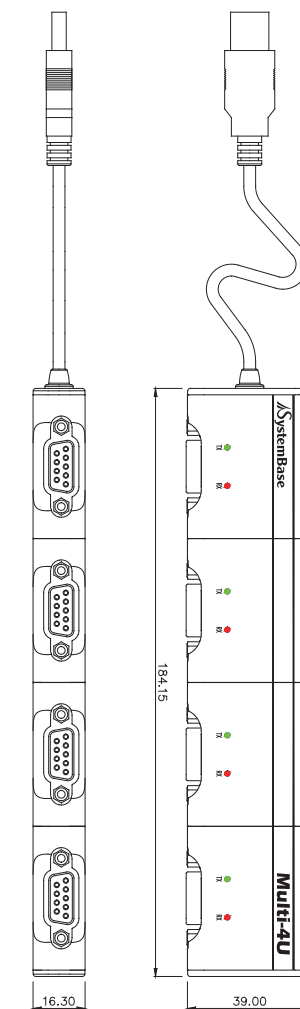| KC, CE, FCC |
|---|

## Ordering Information

| Multi-044D9MC/232 | Multi-4/USB RS232, Driver and Manual CD |
|---|---|
| Multi-044D9MC/Combo | Multi-4/USB Combo(RS422/RS485), Driver and Manual CD |
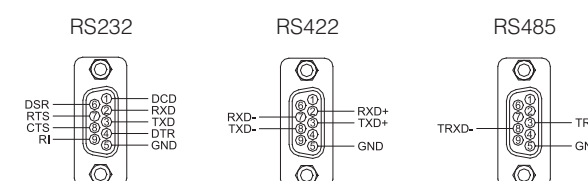
## Pin Assignment

RS232

DSR, RTS, CTS, RI / DCD, RXD, TXD, DTR, GND

RS422

RXD-, TXD- / RXD+, TXD+, GND

RS485

TRXD- / TRXD+, GND

## Dimension

184.15

16.30

39.00

unit : mm

**Sales** : marketing@sysbas.com
**Technical Support** : www.solvline.com

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# Multi-4U

## Features

- 4 Ports USB to Serial Converter
- Supports USB 2.0 High-Speed
- RS-232 or RS-422/485(Combo) Interface: 4 ports
- Maximum Communication Speed: 921.6Kbps
- Display Communication Status through TX/RX LED
- Auto Toggling: Automatic control I/O of the Bus for RS-422/485
- Slew-rate Limit Control
- 15KV Surge Protection

## Overview

Easily and quickly add additional serial ports to your system through the Multi-4/U. The Multi-4/U delivers maximum performance up to 921.6Kbps. It has all the necessary components for the serial communication that the developers do not require additional components to design the product. The USB to Serial Multi-ports support most Windows and Linux operating systems and include 15,000 volt surge suppression eliminating blown ports. There are RS232 and RS422/485 (Combo) models with DE-09 connectors. Simply plug in the USB connector and you have a COM port to connect modems, printers, bar-code scanners or other any serial devices

### Power Supply through Pin #9

The Multi-4/U is designed to supply 5 or 12 volt power through pin #9 to power the external device. This function is ideal for connecting low power device such as barcode readers or POS printers, eliminating the need for an external power supply.

### Auto Toggling

The Multi-4/U has a built-in hardware feature that performs automatic toggling to prevent devices from sending data at the same time causing a crash. This operation is crucial when multiple devices are connected to prevent electrical collisions that lead to errors and unstable communication.

### Slew-Rate Limit Control

The Multi-4/U is equipped with Slew Rate limit control for RS422/485 interface and when enabled it minimizes EMI emissions which may cause data transmission errors. When Slew Rate is used maximum communication speed is 250Kbps. This function is recommended in many medical applications.

## Specification

### USB Bus Interface

| Specification | USB Specification Rev. 2.0 High-Speed |
|---|---|

### Serial

| Interface | RS232, RS422/485 (Combo) |
|---|---|
| Number of Ports | 4 |
| Maximum Speed | 921.6Kbps |
| Signal Lines | RS232: TXD, RXD, DTR, DSR, RTS, CTS, DCD, GND, RI (5V or 12V)<br>RS422: TXD+, TXD-, RXD+, RXD-<br>RS485: TRXD+, TRXD- |
| Surge Protection | Built-in ESD Protection: ±15KV |
| Flow Control | RTS/CTS, XON/XOFF |
| Data Crash Prevention | Auto Toggling |

### Hardware

| Controller | FT4232H |
|---|---|
| Connector | DE-09P or DE-09S (DB9 Male or Female) |

### Software

| Supported OS | Windows XP / 2003 / Vista / 2008 / 7 / 8 / 2012 (32/64 bit), Linux |
|---|---|
| Utility | TestView |

## Operating Environment

| Operating Temperature | 0 ~ 50 ℃ |
|---|---|
| Storing Temperature | -20 ~ 70 ℃ |
| Humidity | 5 ~ 95% Non-Condensing |

## Certifications

| KC, CE, FCC |
|---|

## Ordering Information

| Multi-044P9MC/232 | Multi-4/U DE-09P (DB9 Male) RS232, Driver and Manual CD |
|---|---|
| Multi-044P9MC/Combo | Multi-4/U DE-09P (DB9 Male) Combo(RS422/RS485), Driver and Manual CD |
| Multi-044P9FC/232 | Multi-4/U DE-09S (DB9 Female) RS232, Driver and Manual CD |
| Multi-044P9FC/Combo | Multi-4/U DE-09S (DB9 Female) Combo(RS422/RS485), Driver and Manual CD |
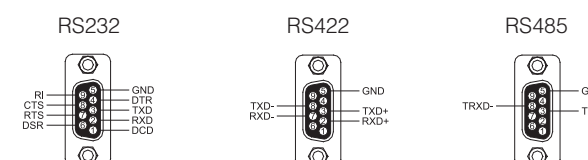
## Pin Assignment(DE9 Female)

RS232    RS422    RS485

## Pin Assignment(DE9 Male)

RS232    RS422    RS485

## Dimension

unit : mm
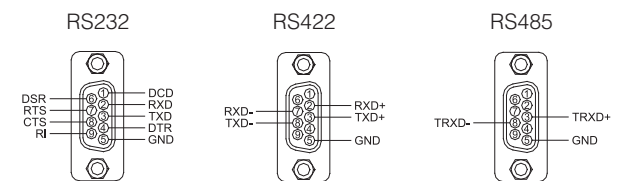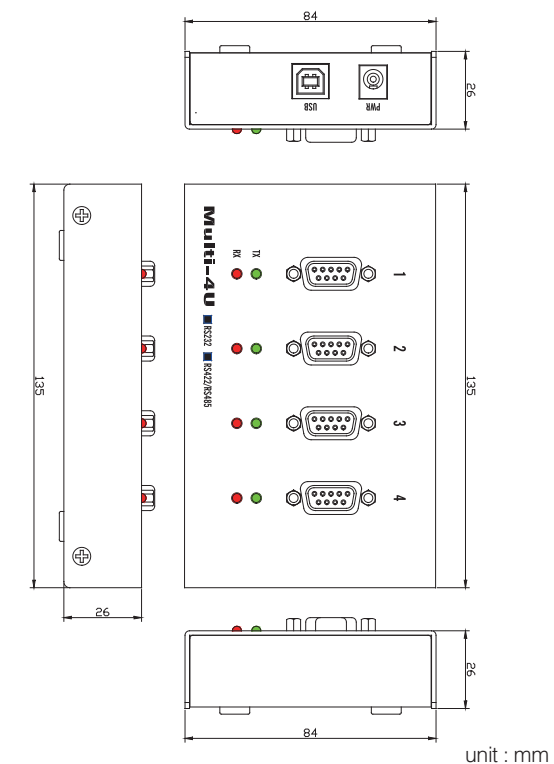
**Sales** : marketing@sysbas.com
**Technical Support** : www.solvline.com

# Multi-8U

## Features

- 8 Ports USB to Serial Converter
- Supports USB 2.0 High-Speed
- RS-232 or RS-422/485(Combo) Interface: 8 ports
- Maximum Communication Speed: 921.6Kbps
- Display Communication Status through TX/ RX LED
- Auto Toggling: Automatic control I/O of the Bus for RS-422/485
- Slew-rate Limit Control
- 15KV Surge Protection

## Overview

Easily and quickly add additional serial ports to your system through the USB port. The Multi-8/U delivers maximum performance up to 921.6Kbps. It has all the necessary components for the serial communication that the developers do not require additional components to design the product. The USB to Serial Multi-ports support most Windows and Linux operating systems and include 15,000 volt surge suppression eliminating blown ports. There are RS232 and RS422/485 (Combo) models with DE-09 connectors. Simply plug in the USB connector and you have a COM port to connect modems, printers, bar-code scanners or other any serial devices

### Power Supply through Pin #9

The Multi-8/U is designed to supply 5 or 12 volt power through pin #9 to power the external device. This function is ideal for connecting low power device such as barcode readers or POS printers, eliminating the need for an external power supply.

### Auto Toggling

The Multi-8/U has a built-in hardware feature that performs automatic toggling to prevent devices from sending data at the same time causing a crash. This operation is crucial when multiple devices are connected to prevent electrical collisions that lead to errors and unstable communication.

### Slew-Rate Limit Control

The Multi-8/U is equipped with Slew Rate limit control for RS422/485 interface and when enabled it minimizes EMI emissions which may cause data transmission errors. When Slew Rate is used maximum communication speed is 250Kbps. This function is recommended in many medical applications.

## Specification

### USB Bus Interface

| Specification | USB Specification Rev. 2.0 High-Speed |
|---|---|

### Serial

| Interface | RS232, RS422/485 (Combo) |
|---|---|
| Number of Ports | 8 |
| Maximum Speed | 921.6Kbps |
| Signal Lines | RS232: TXD, RXD, DTR, DSR, RTS, CTS, DCD, GND, RI (5V or 12V) RS422: TXD+, TXD-, RXD+, RXD- RS485: TRXD+, TRXD- |
| Surge Protection | Built-in ESD Protection: ±15KV |
| Flow Control | RTS/CTS, XON/XOFF |
| Data Crash Prevention | Auto Toggling |

### Hardware

| Controller | FT4232H |
|---|---|
| Connector | DE-09P or DE-09S (DB9 Male or Female) |

### Software

| Supported OS | Windows XP / 2003 / Vista / 2008 / 7 / 8 / 2012 (32/64 bit), Linux |
|---|---|
| Utility | TestView |

## Operating Environment

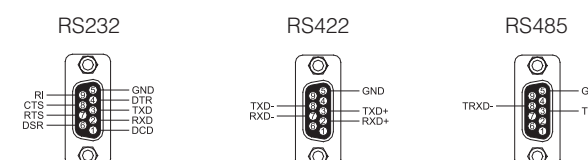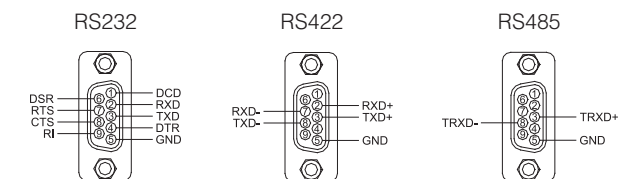| Operating Temperature | 0 ~ 50 °C |
|---|---|
| Storing Temperature | -20 ~ 70 °C |
| Humidity | 5 ~ 95% Non-Condensing |

## Certifications

KC, CE, FCC

## Ordering Information

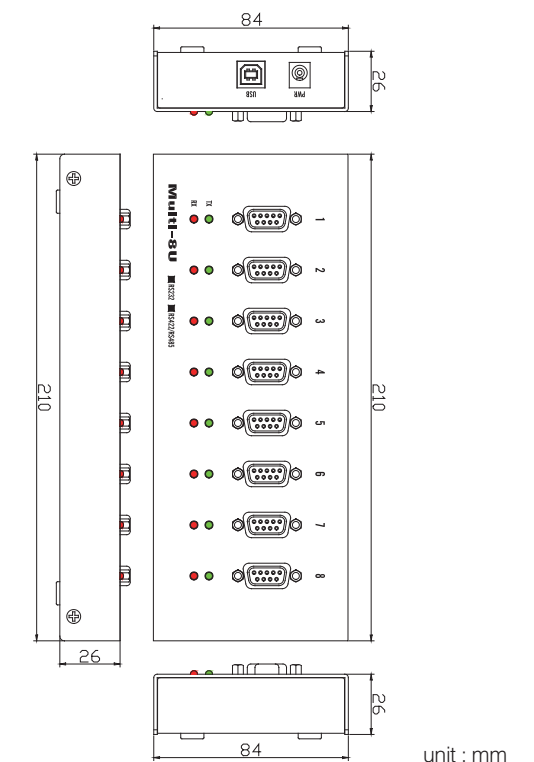| Multi-084P9MC/232 | Multi-8/U DE-09P (DB9 Male) RS232, Driver and Manual CD |
|---|---|
| Multi-084P9MC/Combo | Multi-8/U DE-09P (DB9 Male) Combo(RS422/RS485), Driver and Manual CD |
| Multi-084P9FC/232 | Multi-8/U DE-09S (DB9 Female) RS232, Driver and Manual CD |
| Multi-084P9FC/Combo | Multi-8/U DE-09S (DB9 Female) Combo(RS422/RS485), Driver and Manual CD |

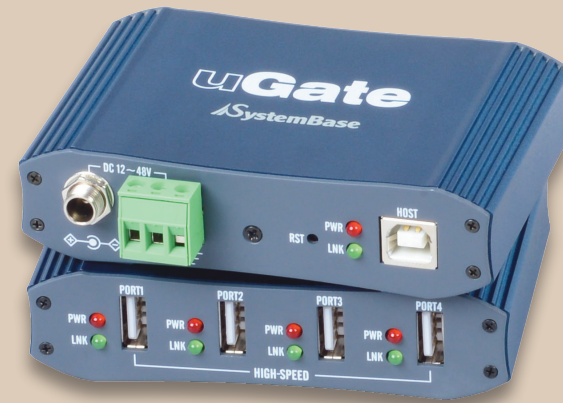## Pin Assignment(DE9 Male)

## Pin Assignment(DE9 Female)

## Dimension

unit : mm

**Sales** : marketing@sysbas.com
**Technical Support** : www.solvline.com

# uGate-400H

*Industrial Grade*

MAX 480Mbps | 15K | USB | 85℃ -40℃ | RoHS

## Features

- Supports USB 2.0 High-Speed 480Mbps
- Dual Power Supply: Power Jack, Terminal Block
- DIN Rail Mountable
- Supports 12 ~ 48 VDC External Power Supply
- Bus Power/External Power Selectable
- 5V, 500mA Power Supply to each port when External Power Supply is connected
- Power, Link LED for each USB ports.
- Supports Industrial Grade Temperature: -40 ~ 85ºC
- Built-in 400W Surge Protection in 10/1000μs Peak Pulse
- ESD Protection: ±8KV Contact, ±15KV Air

## Overview

The uGate-400H is an industrial USB hub supporting USB 2.0 High-Speed 480Mbps. It supports -40 to 85℃ operating temperature and equipped with ±15KV ESD level 4 protection circuit to withstand the extreme environment. When an external power supply is connected, each port can provide 500mA power to the USB devices. Wide range of external power can be supplied from 12 to 48 volt

### Industrial Grade Operating Temperature

The uGate-400H supports operating temperature from -40 to 85℃ (by IEC60068-2-33 temperature cycle) and pass the IEC60068-2-30 temperature and humidity environment test. It provides stable operation in tough environment for industrial use.

### Surge Protection

Most of the surge, the rapid increase in electrical current or voltage shock, comes from the power cable. When there are weak surge that occurs often, it will deteriorate the components. The strong surge will break the circuit that will be not be recoverable. Most surge occurs by lightening. It can also be generated by an electrical actuator. The main source of the surge occurrences cannot be eliminated therefore some method of protection is required to prevent this problem. uGate series are equipped with built-in surge protection that will withstand and protect the internal or external device from 400W surge in 10/1000μs peak pulse.

### ESD Protection

The ESD (Electrostatic Discharge) occurs by a person or other sources which is cause of the deterioration or destruction of the electronic components. In order to prevent this, uGate series has built-in ESD protection based on IEC 61000-4-2 (ESD Level 4 Protection) to resist electrostatic discharge of ±8KV by contact or ±15KV by air.

## Specification

### Bus Interface

| Specification | USB Specification Rev. 2.0 High-Speed |
|---|---|

### USB Interface

| Upstream Port | 1 port USB Type B Female Connector |
|---|---|
| Downstream Port | 4 ports USB Type A Female Connector |
| Maximum Speed | 480Mbps |
| Protection | Built-in ESD Protection: Contact ±8KV, Air ±15KV |

### Hardware

| LED | Power, Link |
|---|---|
| Dimensions | 68 (W) x 101.2 (L) x 26.7 (H) mm |
| Weight | 160g |

### Power Supply

| Input Voltage | 12 ~ 48 VDC |
|---|---|
| Power Consumption | 1.3A at 12VDC |

### Operating Environment

| Operating Temperature | -40 ~ 85 ℃ |
|---|---|
| Storing Temperature | -40 ~ 85 ℃ |
| Humidity | 5 ~ 95% Non-Condensing |

### Certifications

| KC, CE, FCC |
|---|

## Dimension

124.0

26.7 | 28.3

uGate
SystemBase

26.0 | 68.0

101.8

112.0
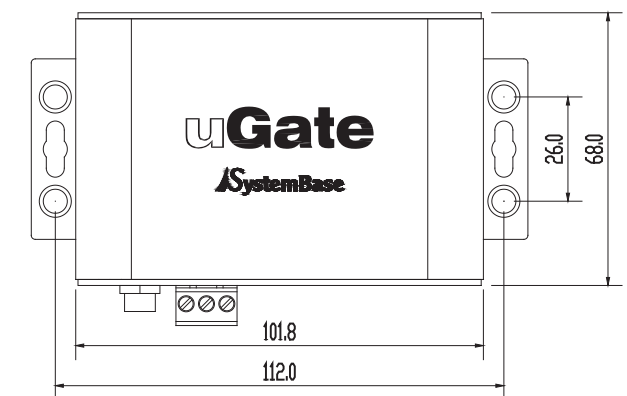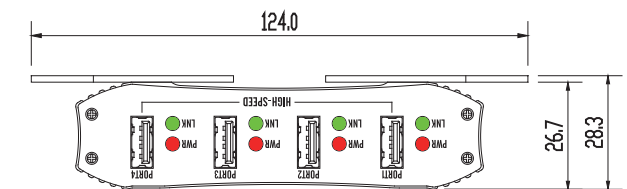
unit : mm

## Ordering Information

| uGate-400HI | uGate-400H, Wall Mount Kit, User Manual |
|---|---|

# uGate-401F

*Industrial Grade*

## Features

- Supports USB 2.0 Full-Speed 12Mbps
- Dual Power Supply: Power Jack, Terminal Block
- DIN Rail Mountable
- Supports 12 ~ 48 VDC External Power Supply
- Bus Power/External Power Selectable
- 5V, 500mA Power Supply to each port when External Power Supply is connected
- Power, Link LED for each USB ports.
- Supports Industrial Grade Temperature: -40 ~ 85°C
- Built-in 400W Surge Protection in 10/1000μs Peak Pulse
- ESD Protection: ±8KV Contact, ±15KV Air

## Overview

The uGate-401F is an industrial USB hub supporting USB 2.0 Full-Speed 12Mbps. It supports -40 to 85°C operating temperature and equipped with ±15KV ESD level 4 protection circuit to withstand the extreme environment. When an external power supply is connected, each port can provide 500mA power to the USB devices. Wide range of external power can be supplied from 12 to 48 volt

### Provides Digital Isolation

The uGate F series supports ±5KV digital isolation. This feature replaces existing opto-isolation. It has ±5KV isolation and can protect from ±10KV surge to prevent damages to the devices. The opto-isolation is based on LED, which is has limits regarding current, temperature and product life that can cause inconsistent signal output. The digital isolation was applied to resolve these issues for more stable operation in an environment with constant noises.

### Industrial Grade Operating Temperature

The uGate-401F supports operating temperature from -40 to 85°C (by IEC60068-2-33 temperature cycle) and pass the IEC60068-2-30 temperature and humidity environment test. It provides stable operation in tough environment for industrial use.

### Surge Protection

Most of the surge, the rapid increase in electrical current or voltage shock, comes from the power cable. When there are weak surge that occurs often, it will deteriorate the

components. The strong surge will break the circuit that will be not be recoverable. Most surge occurs by lightening. It can also be generated by an electrical actuator. The main source of the surge occurrences cannot be eliminated therefore some method of protection is required to prevent this problem. uGate series are equipped with built-in surge protection that will withstand and protect the internal or external device from 400W surge in 10/1000μs peak pulse.

### ESD Protection

The ESD (Electrostatic Discharge) occurs by a person or other sources which is cause of the deterioration or destruction of the electronic components. In order to prevent this, uGate series has built-in ESD protection based on IEC 61000-4-2 (ESD Level 4 Protection) to resist electrostatic discharge of ±8KV by contact or ±15KV by air.

## Specification

### Bus Interface

| Specification | USB Specification Rev. 2.0 Full-Speed |
|---|---|

### USB Interface

| Upstream Port | 1 port USB Type B Female Connector |
|---|---|
| Downstream Port | 4 ports USB Type A Female Connector |
| Maximum Speed | 12Mbps |
| Protection | Built-in ESD Protection: Contact ±8KV, Air ±15KV |

### Power Supply

| Input Voltage | 12 ~ 48 VDC |
|---|---|
| Power Consumption | 1.5A at 12VDC |

### Hardware

| LED | Power, Link |
|---|---|
| Dimensions | 91 (W) x 101.2 (L) x 26.7 (H) mm |
| Weight | 211g |

### Operating Environment

| Operating Temperature | -40 ~ 85 ℃ |
|---|---|
| Storing Temperature | -40 ~ 85 ℃ |
| Humidity | 5 ~ 95% Non-Condensing |

### Certifications

| KC, CE, FCC |
|---|

## Dimension

unit : mm

## Ordering Information

| uGate-401FI | uGate-401F, Wall Mount Kit, User Manual |
|---|---|

**Sales** : marketing@sysbas.com
**Technical Support** : www.solvline.com

# uGate-700H

*Industrial Grade*

MAX 480Mbps | 15K | USB -40/85°C | 85°C -40°C | RoHS

CE | FC | KC

## >> Features

- Supports USB 2.0 High-Speed 480Mbps
- Dual Power Supply: Power Jack, Terminal Block
- DIN Rail Mountable
- Supports 12 ~ 48 VDC External Power Supply
- Bus Power/External Power Selectable
- 5V, 500mA Power Supply to each port when External Power Supply is connected
- Power, Link LED for each USB ports.
- Supports Industrial Grade Temperature: -40 ~ 85°C
- Built-in 400W Surge Protection in 10/1000μs Peak Pulse
- ESD Protection: ±8KV Contact, ±15KV Air

## Overview

uThe uGate-700H is an industrial USB hub supporting USB 2.0 High-Speed 480Mbps. It supports -40 to 85°C operating temperature and equipped with ±15KV ESD level 4 protection circuit to withstand the extreme environment. When an external power supply is connected, each port can provide 500mA power to the USB devices. Wide range of external power can be supplied from 12 to 48 volt

### Industrial Grade Operating Temperature

The uGate-700H supports operating temperature from -40 to 85°C (by IEC60068-2-33 temperature cycle) and pass the IEC60068-2-30 temperature and humidity environment test. It provides stable operation in tough environment for industrial use.

### Surge Protection

Most of the surge, the rapid increase in electrical current or voltage shock, comes from the power cable. When there are weak surge that occurs often, it will deteriorate the components. The strong surge will break the circuit that will be not be recoverable. Most surge occurs by lightening. It can also be generated by an electrical actuator. The main source of the surge occurrences cannot be eliminated therefore some method of protection is required to prevent this problem. uGate series are equipped with built-in surge protection that will withstand and protect the internal or external device from 400W surge in 10/1000μs peak pulse.

### ESD Protection

The ESD (Electrostatic Discharge) occurs by a person or other sources which is cause of the deterioration or destruction of the electronic components. In order to prevent this, uGate series has built-in ESD protection based on IEC 61000-4-2 (ESD Level 4 Protection) to resist electrostatic discharge of ±8KV by contact or ±15KV by air.

## Specification

### Bus Interface

| Specification | USB Specification Rev. 2.0 High-Speed |
|---|---|

### USB Interface

| Upstream Port | 1 port USB Type B Female Connector |
|---|---|
| Downstream Port | 7 ports USB Type A Female Connector |
| Maximum Speed | 480Mbps |
| Protection | Built-in ESD Protection: Contact ±8KV, Air ±15KV |

### Power Supply

| Input Voltage | 12 ~ 48 VDC |
|---|---|
| Power Consumption | 2.3A at 12VDC |

### Hardware

| LED | Power, Link |
|---|---|
| Dimensions | 98 (W) x 237 (L) x 48.65 (H) mm |
| Weight | 160g |

### Operating Environment

| Operating Temperature | -40 ~ 85 ℃ |
|---|---|
| Storing Temperature | -40 ~ 85 ℃ |
| Humidity | 5 ~ 95% Non-Condensing |

### Certifications

| KC, CE, FCC |
|---|

## Dimension

258.0

48.6 | 50.1

uGate SystemBase

26.0 | 98.0

237.0

246.0
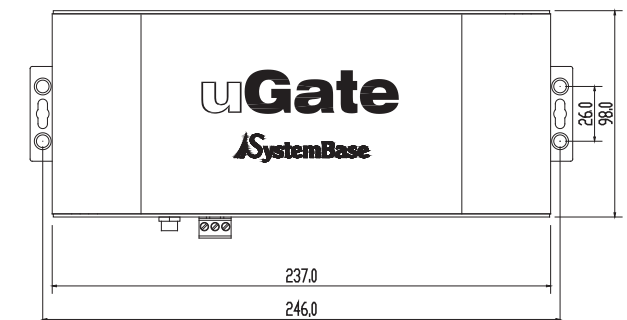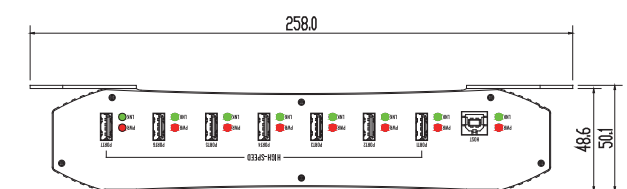
unit : mm

## Ordering Information

| uGate-700HI | uGate-700H, Wall Mount Kit, User Manual |
|---|---|

# uGate-701F

Industrial Grade

MAX 12Mbps | 15K | USB | ISO | 85°C -40°C | RoHS

CE FC KC

## » Features

- Supports USB 2.0 Full-Speed 12Mbps
- Dual Power Supply: Power Jack, Terminal Block
- DIN Rail Mountable
- Supports 12 ~ 48 VDC External Power Supply
- Bus Power/External Power Selectable
- 5V, 500mA Power Supply to each port when External Power Supply is connected
- Power, Link LED for each USB ports.
- Supports Industrial Grade Temperature: -40 ~ 85°C
- Built-in 400W Surge Protection in 10/1000μs Peak Pulse
- ESD Protection: ±8KV Contact, ±15KV Air

## Overview

The uGate-701F is an industrial USB hub supporting USB 2.0 Full-Speed 12Mbps. It supports -40 to 85°C operating temperature and equipped with ±15KV ESD level 4 protection circuit to withstand the extreme environment. When an external power supply is connected, each port can provide 500mA power to the USB devices. Wide range of external power can be supplied from 12 to 48 volt

### *Provides Digital Isolation*

The uGate F series supports ±5KV digital isolation. This feature replaces existing opto-isolation. It has ±5KV isolation and can protect from ±10KV surge to prevent damages to the devices. The opto-isolation is based on LED, which is has limits regarding current, temperature and product life that can cause inconsistent signal output. The digital isolation was applied to resolve these issues for more stable operation in an environment with constant noises.

### *Industrial Grade Operating Temperature*

The uGate-701F supports operating temperature from -40 to 85°C (by IEC60068-2-33 temperature cycle) and pass the IEC60068-2-30 temperature and humidity environment test. It provides stable operation in tough environment for industrial use.

### *Surge Protection*

Most of the surge, the rapid increase in electrical current or voltage shock, comes from the power cable. When there are weak surge that occurs often, it will deteriorate the

components. The strong surge will break the circuit that will be not be recoverable. Most surge occurs by lightening. It can also be generated by an electrical actuator. The main source of the surge occurrences cannot be eliminated therefore some method of protection is required to prevent this problem. uGate series are equipped with built-in surge protection that will withstand and protect the internal or external device from 400W surge in 10/1000μs peak pulse.

### *ESD Protection*

The ESD (Electrostatic Discharge) occurs by a person or other sources which is cause of the deterioration or destruction of the electronic components. In order to prevent this, uGate series has built-in ESD protection based on IEC 61000-4-2 (ESD Level 4 Protection) to resist electrostatic discharge of ±8KV by contact or ±15KV by air.

## Specification

### *Bus Interface*

| Specification | USB Specification Rev. 2.0 Full-Speed |
|---|---|

### *USB Interface*

| Upstream Port | 1 port USB Type B Female Connector |
|---|---|
| Downstream Port | 7 ports USB Type A Female Connector |
| Maximum Speed | 12Mbps |
| Protection | Built-in ESD Protection: Contact ±8KV, Air ±15KV<br>Each Downstream USB Ports: ±5KV Digital Isolation |

### *Power Supply*

| Input Voltage | 12 ~ 48 VDC |
|---|---|
| Power Consumption | 2.5A at 12VDC |

### *Hardware*

| LED | Power, Link |
|---|---|
| Dimensions | 118 (W) x 237 (L) x 48.65 (H) mm |
| Weight | 788g |

### *Operating Environment*

| Operating Temperature | -40 ~ 85 ℃ |
|---|---|
| Storing Temperature | -40 ~ 85 ℃ |
| Humidity | 5 ~ 95% Non-Condensing |

### *Certifications*

| KC, CE, FCC |
|---|

## Dimension

258.0
48.6 / 50.1
26.0 / 118.0
237.0
246.0
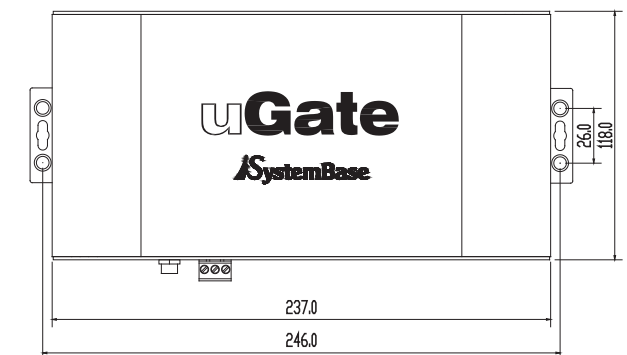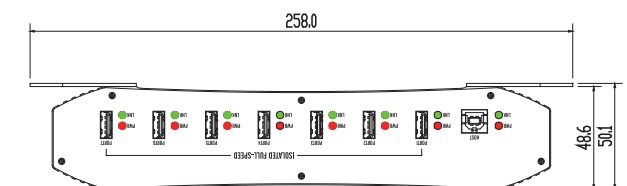
unit : mm

## Ordering Information

| uGate-701FI | uGate-701F, Wall Mount Kit, User Manual |
|---|---|

**Sales** : marketing@sysbas.com
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SystemBase
Serial Communication Experts
Since 1987

uCAN

*Industrial Grade*

# CAN Frame Analyzer

15K DE9M | USB | 85℃ -40℃ | 95% | RoHS RoHS Compliant

CE KC

## Features

- Provides Interface (DLL) for programming uCAN
- Provides uCAN View Utilty with CAN Frame Analyzer/Exerciser
- CAN Speed: Maximum 1Mbps
- Supports USB 2.0 High-Speed 480Mbps
- Compatible with CAN 2.0A/B
- Supports Industrial Grade Temperature: -40 ~ 85ºC
- Operates by USB Bus Power
- ESD Protection: ±15KV Air
- Communication Status can be check with TX/RX LEDs

uCAN

## Overview

The uCAN can send and receive CAN frame through the CAN Bus connected to the USB port. The DLL file is provided so that the users can write a source code for the uCAN. The uCAN View is provided for the Windows users to analyze CAN frames or use it as an exerciser. The uCAN View provides filtering, sorting, and error counting functions to help the users analyze the CAN frames. The exerciser funtion allows the users to send CAN frame to other CAN devices. The UI that comes with uCAN View is straightfoward that it is convenient to analyze the CAN frame.

### uCAN View - Exerciser

The exerciser funtion creates a CAN frame to send it to other CAN devices. The CAN frames can be set to maximum 4 where it can be set to increament of 1ms and sent at the same time. When user defined CAN frame is received, uCAN will automatically respond to it. It is useful when analyzing remote frames for the CAN devices.

### uCAN View - Analyzer

There are two kinds of method of display for the analyzer function in uCAN. First, it will be displayed as the frames were captured. Second, cAN frames will be displayed by IDs. When the first method is used, it is easy to check the CAN frame in order. The second method allows checking frames updated by ID. It also comes with filtering and soring function to speed up the searching process. The users can set the range of the ID (standard or extended) in the filtering function to find the necessary frames. The sorting function has sort by ascending/descending or by ID, so when it is used with other functions mentioned before, it is easy to find the data frame they want.

### uCAN View - Error and Detail View

The TEC (Transmit Error Count), REC (Receive Error Count), and LEC (Last Error Code) can be check with uCAN View. By using these, when the users check the change of error counts, they can easily check the status of the CAN bus. When CAN frame is double clicked in the uCAN View, the frame detail view window will appear to show more information about the CAN frame. This window will show the CAN frame field in each bits for the users requiring detailed information.

## Specification

### USB Bus Interface

| Interface | USB Type A |
|---|---|
| Specification | USB Specification Rev. 2.0 High-Speed |
| Cable Length | 0.6m |

### CAN Bus Interface

| Interface | DE-09P (DB9 Male) |
|---|---|
| Communication Port | 1 |
| Maximum Speed | 1Mbps |
| Signals | CAN High (pin #7), CAN Low (pin #2) |
| Protection | Built-in ESD Protection: ±15KV |

### Hardware

| Power Consumption | USB Bus Powered |
|---|---|
| Dimensions | 80 (L) x 40 (W) x 23 (H) |
| Weight | 50g |

### Software

| Utility | uCAN View |
|---|---|
| Supported OS | Windows XP / 2003 / Vista / 2008 / 7 / 8 / 2012 (32/64 bit) |
| Functions | Filtering / Sorting / Exerciser / Response Exerciser |

### Operating Environment

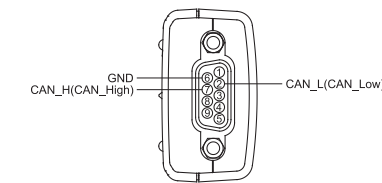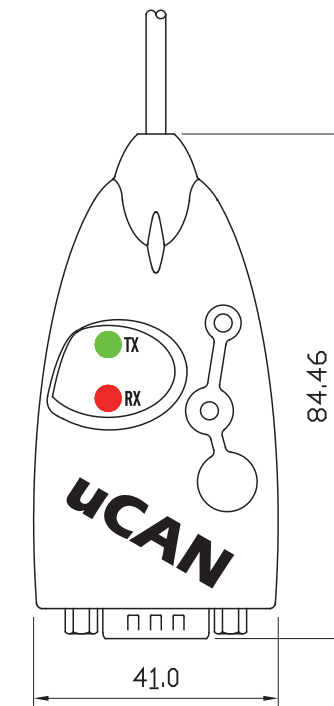| Operating Temperature | -40 ~ 85 ℃ |
|---|---|
| Storing Temperature | -40 ~ 85 ℃ |
| Humidity | 5 ~ 95% Non-Condensing |

### Certifications

| KC, CE |
|---|

## Ordering Information

| CS-34DDC | uCAN (CAN Frame Analyzer), CD (uCAN View Software, uCAN DLL, sample source code, manual) |
|---|---|

## Pin Assignment

GND
CAN_H(CAN_High) CAN_L(CAN_Low)

## Dimension

84.46

TX
RX

uCAN

41.0

unit : mm

**Sales** : marketing@sysbas.com
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