



User's manual

Sylvac RS232 Connectic Systems for Hand Tools

Opto-RS 232 C simplex Opto-RS 232 C duplex RS-232 C simplex USB Serial adapter







CONTENTS

1.	Introduction	5
2.	Opto – Simplex instrument / Opto – Simplex cable	6
	2.1 How to use Opto-RS232 simplex Sylvac instrument with an Opto-RS232 simplex cable :.	6
	2.2 Connection with the Hyper Terminal Windows Software	6
	2.3 Connection with the GageWedge Software	8
	2.4 Connection with the Winwedge 32 Software	9
	2.5 Connection with Standard Basic program	.10
	2.6 Connection with Visual Basic program	.10
	2.7 Specifications	.11
	2.8 Accessories	.11
3.	Opto – Simplex instrument / Opto – Duplex cable	.12
	3.1 How to use Opto-RS232 simplex Sylvac instrument with an Opto-RS232 duplex cable :	.12
	3.2 Connection with the Hyper Terminal Windows Software	.12
	3.3 Connection with the GageWedge Software	.13
	3.4 Connection with the Winwedge 32 Software	.14
	3.5 Connection with Standard Basic program	.16
	3.6 Connection with Visual Basic program	.16
	3.7 Specifications	.17
	3.8 Accessories	.17
4.	Opto – Duplex instrument / Opto – Simplex cable	.18
	4.1 How to use Opto-RS232 duplex Sylvac instrument with an Opto-RS232 simplex cable : .	.18
	4.2 Connection with the Hyper Terminal Windows Software	.18
	4.3 Connection with the GageWedge Software	.20
	4.4 Connection with the Winwedge 32 Software	.21
	4.5 Connection with Standard Basic program	.22
	4.6 Connection with Visual Basic program	.22
	4.7 Specifications	.23
	4.8 Accessories	.23
5.	Opto – Duplex instrument / Opto – Duplex cable	.24
	5.1 How to use Opto-RS232 duplex Sylvac instrument with an Opto-RS232 duplex cable :	.24
	5.2 Connection with the Hyper Terminal Windows Software	.24
	5.3 Connection with the GageWedge Software	.25
	5.4 Connection with the Winwedge 32 Software	.26
	5.5 Connection with Standard Basic program	.28
	5.6 Connection with Visual Basic program	.28
	5.7 Specifications	.29



	5.8 Accessories	29
6.	RS Simplex instrument / Duplex connection + power cable	30
	6.1 How to use RS Simplex instrument with Duplex connection + power supply cable	30
	6.2 Connection with the Hyper Terminal Windows Software	30
	6.3 Connection with the GageWedge Software	32
	6.4 Connection with the Winwedge 32 Software	33
	6.5 Connection with Standard Basic program	35
	6.6 Connection with Visual Basic program	35
	6.7 Specifications	36
	6.8 Accessories	36
7.	How to use the USB-RS232 converter cable	37
8.	Compatibility	38



OPTO-RS CABLE

The OPTO-RS cable enables a direct connection with most of measuring instruments to a personal computer or a dedicated printer.

It is not only a cable, but an interface which converts the data output of the instrument to a compatible RS232 signal. The periphery instrument connection must be able to supply power to the OPTO-RS plug.

Two different types of OPTO-RS plug connections are available : Simplex and Duplex

Simplex cable

First generation of OPTO-RS cable connection, designed for instruments which were not able to receive RS232 commands. Data requests are made by LED status change (e.g. by turning off the DTR signal for a minimum of 110ms.

The OPTO-RS simplex cable can also be used with duplex instruments, however remote commands will be ignored.

Duplex cable

The duplex cable allows a 2 – way communication between an instrument an a PC in half-duplex mode (e.g. 2 way communication but not simultaneously).

Important : Only Duplex instruments have the ability to receive RS232 commands. If you use a Duplex cable with a simplex instrument, all commands other than "?" will be seen as a data request.

The pin assignment of a duplex cable is different to the one of a simplex cable.

RS 232 connection + power supply

The RS232 cable enables a power supply and a direct connection with most of the Sylvac measuring instrument to a personal computer, a dedicated printer or to a Sylvac display unit.

It is not only a cable, but an interface witch converts the Data output of the instrument to a compatible RS 232 signal. The periphery instrument connection must be able to supply power to the RS 232 plug.



2. Opto - Simplex instrument / Opto - Simplex cable

2.1 How to use Opto-RS232 simplex Sylvac instrument with an Opto-RS232 simplex cable :

In both **SIMPLEX instrument** and **SIMPLEX cable**, data can only be sent from the instrument to the data acquisition system (e.g. PC). No data can be sent from the PC to the instrument.





STEP#3

Select the COM port that your measuring instrument is connected

STEP#4

Select the port parameters. (4800 bauds rate, 7 bits, even parity, 2 stops bit Flow Control None, then click ok.)

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\sim	Enter the phone number	that you want to dial :	
	Countries / States :		v
	Area code :		
	Phone number :		
	Connection using :	COM1	
		- or	



STEP#5

On digital caliper **S235**, press the set button, then the value is displayed on the screen.



Troubleshooting

- The Dsub9 connector of Opto-RS cable is not connected to the corresponding COM port number.
- b) The port parameters are not correct. (4800bd, 7bits, even parity, 2 stop bits)
- c) The Opto-RS cable is defective. (on the Opto-RS cable, the red light should be on when Hyper-Terminal is active).
- d) The Opto-RS instrument is defective.



2.3 Connection with the GageWedge Software

Gage Wedge was designed to be extremely easy to configure for all instruments using the Sylvac measuring instrument chipset.

(free on www.sylvac.ch)

Step #1

Select the COM port that your measuring instrument is connected to and choose the preferences that you would like to use from the options available in the Gage Wedge Window.

Note : The Postamble Keystroke option in the Preferences group allows you to select an additional keystroke that you would like Gage Wedge to issue after each input from your measuring instrument. You can choose either an Enter keystroke, a Tab keystroke or any if the four arrow keys (Up, Down, Left or Right). You should select the keystroke that you would normally type after a gage reading if you were typing the data manually.

Step #2

Transmit a measurement from your measuring instrument to make sure that the data from the instrument is being inputted correctly. The measurement data from the instrument should appear in the text box marked "Input Data From Gage", in the Gage Wedge Window.

Step #3

If your measurement data appears correctly in the Gage Wedge Window then everything is working correctly and all you have to do is switch to another Windows application (leave Gage Wedge running) and take measurements. The instrument data should appear in the other application just as if it were being typed in on the keyboard.

Note: You can minimize the Gage Wedge Window and it will continue to function correctly.



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2.4 Connection with the Winwedge 32 Software

WinWedge is primarily designed as a tool for interfacing typical RS232 devices (scales, bar code/mag stripe readers, measuring tools, GPS devices, sensors, pH meters and many different types of laboratory and industrial instruments) to a PC. You can think of WinWedge as a "user configurable serial device driver". WinWedge is designed to run in the background and input data through the serial port and immediately feed that data directly to another program either by converting the data to "keystrokes" so that the data appears in the other application as if it were being typed in on the keyboard or it can also pass data to another program using a feature of Windows called Dynamic Data Exchange (DDE).

Step #1

Click the Setting sub-menu menu in Port menu Select the COM port that your measuring instrument is connected to.

Select the Parity (*Even*) that your measuring instrument use.

Select the Baud Rate (4800) that your measuring instrument use.

Select the Data Bits (Seven) that your measuring instrument use.

Select the Stop Bits (2) that your measuring instrument use.

Select the Flow Control (*None*) that your measuring instrument use. (Simplex) Click OK

Click OK.

Step #2

Click the Analyse sub-menu in Port menu.

Transmit a measurement from your measuring instrument to make sure that the data from the instrument is being inputted correctly. The measurement data from the instrument should appear in the text box marked "Input Data"

Note : When clicking the icon DTR, a measurement is taken from the instrument.

The text box marked "Output" cannot be used because this is for duplex connection.



Co <u>n</u> nector	Baud Rate		OK
COM1	C 110	€ 4800	
COM2 COM3	○ 300	C 9600	Cancel
COM5	C 600	C 19200	
COM5 COM7	C 1200	C 38400	
COM8 COM9 💌	C 2400	C 56000	
<u>Parity</u>	_ <u>D</u> ata Bits —	<u>Stop Bits</u>	Elow Control
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C Mark	Seven	• 2	C Opto-RS
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2.5 Connection with Standard Basic program

Simplex cable

Serial port opening and parameters	OPEN "COM1:4800,E,7,2,PE"
Power supply setting (RTS = ON, DTR = ON) &H3FC register address (COM2: &H2FC)	OUT &H3FC,&H0B
Set DTR line OFF (<i>RTS</i> = <i>ON</i> , <i>DTR</i> = <i>OFF</i>)	OUT &H3FC,&H0A
Data reading	Line input#1,a\$
* Data Request = DTR	150 m/sec.

2.6 Connection with Visual Basic program

The communication control (MsComm) of Visual Basic must be applied :

Simplex cable

Port opening	[•] Use COM1 Comm1.CommPort = 1 [•] 4800 baud, even parity, 7 data, and 2 stop bit. Comm1.Settings = "4800,E,7,2" [•] Open the port Comm1.PortOpen = True
Power supply setting	' Simplex Cable' Form1.MsComm1.DTREnable = True Form1.MSComm1.RTSEnable = True
Data request	' Simplex Cable ' MSComm1.DTREnable = False Timer1.Interval = 150 Timer1.Enabled = True
Data reading	InString = Comm1.Input



2.7 Specifications

Connection.....

Plug's power supply.....

Opto-RS Simplex instrument with Simplex Cable

RS232 compatible, Dsub 9p female or open

From peripherical equipment, with TXD, DTR and RTS lines

Data transmission parameters.....

Max. cable length.....

Number of transmissions/sec.....

Data transmission format.....

2.8 Accessories

USB to RS232 converter cable Order N° 925.1142 Gagewedge for WINDOWS 1- way serial communication capabilities to other windows applications (Excel, Word)

Winwedge for WINDOWS Extremely powerful utility designed to add complete 2 way serial communication capabilities to other windows applications (Excel, Word..) Order N° 981.7140

4800 bds, even parity, 7 data bits, 2 stop bits

15 m according to IEC standards

4-8/sec.(depends on the instrument connected)

[Sign | E1-En | "." | F1-Fn | CR] ["ERR" | Number | CR]





3. Opto - Simplex instrument / Opto - Duplex cable

3.1 How to use Opto-RS232 simplex Sylvac instrument with an Opto-RS232 duplex cable :

In both **SIMPLEX instrument** and **Duplex cable**, data can be sent from the instrument to the data acquisition system (e.g. PC), and the command "?" from the PC to the instrument as a data request.



3.2 Connection with the Hyper Terminal Windows Software

This program is available as standard with Windows 95,98,2000, Me, and XP. It cannot be used with a duplex cable.

Cannot be used because, Power supply RTS = V- (not available)

Possibility : By using the Booster n° 925.1150



3.3 Connection with the GageWedge Software

Gage Wedge was designed to be extremely easy to configure for all instruments using the Sylvac measuring instrument chipset.

Step #1

Select the COM port that your measuring instrument is connected to and choose the preferences that you would like to use from the options available in the Gage Wedge Window.

Select the Preferences (Gage Uses OptoRS Duplex Adapter).

Note : The Postamble Keystroke option in the Preferences group allows you to select an additional keystroke that you would like Gage Wedge to issue after each input from your measuring instrument. You can choose either an Enter keystroke, a Tab keystroke or any if the four arrow keys (Up, Down, Left or Right). You should select the keystroke that you would normally type after a gage reading if you were typing the data manually.

Step #2

Transmit a measurement from your measuring instrument to make sure that the data from the instrument is being inputted correctly. The measurement data from the instrument should appear in the text box marked "Input Data From Gage", in the Gage Wedge Window.

Step #3

If your measurement data appears correctly in the Gage Wedge Window then everything is working correctly and all you have to do is switch to another Windows application (leave Gage Wedge running) and take measurements. The instrument data should appear in the other application just as if it were being typed in on the keyboard.

Note: You can minimize the Gage Wedge Window and it will continue to function correctly.



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3.4 Connection with the Winwedge 32 Software

WinWedge is primarily designed as a tool for interfacing typical RS232 devices (scales, bar code/mag stripe readers, measuring tools, GPS devices, sensors, pH meters and many different types of laboratory and industrial instruments) to a PC. You can think of WinWedge as a "user configurable serial device driver". WinWedge is designed to run in the background and input data through the serial port and immediately feed that data directly to another program either by converting the data to "keystrokes" so that the data appears in the other application as if it were being typed in on the keyboard or it can also pass data to another program using a feature of Windows called Dynamic Data Exchange (DDE).

Step #1

Click the Setting sub-menu menu in Port menu

Select the COM port that your measuring instrument is connected to.

Select the Parity (*Even*) that your measuring instrument use.

Select the Baud Rate (4800) that your measuring instrument use.

Select the Data Bits (Seven) that your measuring instrument use.

Select the Stop Bits (2) that your measuring instrument use.

Select the Flow Control (*Opto-RS*) that your measuring instrument use. (*Duplex*) Click OK.

WinWedge Setup (Untitled) - 0 × Mode Port Define Activate Help File WinWedge Setup (Untitled) - 0 × File Mode Port Define Activate Help Setting. Analyse WinWedge Serial Port Settings 1 Baud Rate Connector OK. СОМ1 🔺 C 110 4800 COM2 COM3 Cancel C 300 C 9600 COM4 C 19200 C 600 COM5 COM6 C 38400 C 1200 COM7 COM8 C 2400 C 56000 COM9 Data Bits Stop Bits Parity Flow Control C_{1} C None C Five C None C Xon/Xoff C Odd C Six C 15 C Hardware Even Opto-BS Seven · 2 C Mark C Space C Eight Input Buffer Size: 1024 Output Buffer Size: 512

Step #2

Click the Analyse sub-menu in Port menu.

Transmit a measurement from your measuring instrument to make sure that the data from the instrument is being inputted correctly. The measurement data from the instrument should appear in the text box marked "Input Data"

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- Selected Text:			<u>C</u> lear Inpu
Start Position: j	9 Byte Count: (0		∖nalyze Inp
C Activate Pre-Ir	nput Character Translation T	able	
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Step#3

Click the "Clear Input" Icon to empty the buffer .

<u>ə</u> r	\sim	Port Analyze - COM2:4800,Even,Seven,2		
<i>.</i>	(3)	Input Data	Total Byte Count	8
		Selected Text Start Position: 9 Byte Count: 0		<u>C</u> lear Input <u>A</u> nalyze Input
		Output ASCII Chart Send DTR~	<u>B</u> reak	Quit
	4	Port Analyze - COM2:4800,Even,Seven,2 Input Data	Total Byte Count	8
		Selected Text: Start Position: 9 Byte Count: 0		<u>C</u> lear Input Analyze Input
		Output ?) ASCII Chart Send	Break	Quit
the PC t to PC	5	Port Analyze - COM2:4800,Even,Seven,2 Input Data +18.002	Total Byte Count	8
should		Selected Text: Start Position: 9 Byte Count: 0		<u>C</u> lear Input
an use Duplex		Activate Pre-Input Character Translation Table		<u>Analyze Input</u>
		Output		

Step#4 Enter in the text box marked "Output",

the character "?" then click the icon "ASCII Chart" to select the ASCII code (13 ♪ CR (Carriage Return)) then click OK

Step#5

Click the "Send" icon, this is a request from the PC to send the displayed value on the instrument to PC

The measurement data from the instrument should appear in the text box marked "Input Data"

This is the only remote command that you can use with a Simplex instrument connected with a Duplex Cable.

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?♪ ASCII Chart

Send

DTR~

Break

Quit



3.5 Connection with Standard Basic program

duplex cable

Serial port opening and parameters	OPEN "COM1:4800,E,7,2,PE"		
Power supply setting (RTS = OFF, DTR = ON) &H3FC register address (COM2: &H2FC)	OUT &H3FC,&H09		
Data request (<cr> will be automatic using this command)</cr>	Print #1,"?"		
Data reading	Line input#1,a\$		

3.6 Connection with Visual Basic program

The communication control (MsComm) of Visual Basic must be applied :

Port opening	^c Use COM1 Comm1.CommPort = 1 ^c 4800 baud, even parity, 7 data, and 2 stop bit. Comm1.Settings = "4800,E,7,2" ^c Open the port Comm1.PortOpen = True
Power supply setting	[·] Duplex Cable [·] Form1.MsComm1.DTREnable = True Form1.MSComm1.RTSEnable = False
Data request	 ^c Duplex Cable + simplex instrument ^c instruments PM200,201 old generation' MSComm1.Break = True ^c Incremente Timer1.Interval in case of no trans' Timer1.Interval = 10 Timer1.Enabled = True MSComm 1.Break = False ou ^c instruments from S225 new generation' ^c Duplex Cable + simplex instrument ' MSComm1.Output = "?" + Chr\$(13)
Data reading	InString\$ = Comm1.Input



3.7 Specifications

Opto-RS Simplex instrument with Duplex Cable

Connection.....

Plug's power supply.....

RS232 compatible, Dsub 9p female or open

From peripherical equipment, with TXD, DTR and RTS lines

Data transmission parameters.....

Max. cable length.....

Number of transmissions/sec.....

Data transmission format.....

4800 bds, even parity, 7 data bits, 2 stop bits

15 m according to IEC standards

4-8/sec.(depends on the instrument connected)

[Sign | E1-En | "." | F1-Fn | CR] ["ERR" | Number | CR]

3.8 Accessories

applications (Excel, Word..)

Press the foot pedal to send the displayed value on the instrument to the PC . Adapter and foot pedal	Order N° 925.1143 (for Duplex Cable only)
USB to RS232 converter cable	Order N° 925.1142
Gagewedge for WINDOWS 1- way serial communication capabilities to other windows applications (Excel, Word)	Order N° 981.7141 (free on <u>www.sylvac.ch</u>)
Winwedge for WINDOWS Extremely powerful utility designed to add complete 2 way serial communication capabilities to other windows	Order N° 981.7140





4. Opto – Duplex instrument / Opto – Simplex cable

4.1 How to use Opto-RS232 duplex Sylvac instrument with an Opto-RS232 simplex cable :

In both **Duplex instrument** and **SIMPLEX cable**, data can only be sent from the instrument to the data acquisition system (e.g. PC). No data can be sent from the PC to the instrument.



4.2 Connection with the Hyper Terminal Windows Software

This program is available as standard with Windows 95,98,2000, Me, and XP. It can only be used with a **simplex cable** and as data transmission from the instrument.

STEP#1

Open the Hyper-Terminal Windows Software.

STEP#2

Enter a name for this connection then click OK.





STEP#3

Select the COM port that your measuring instrument is connected

3	Connection	quiex	<u>7 ×</u>
-	Enter the phone number	that you want to dial :	
	Countries / States :		w.
	Area code :		
	Phone number :		
	Connection using :	COM1	•
		ΟΚ	Cancel



STEP#4

Select the port parameters.

Flow Control None, then click ok.)

STEP#5

On digital gauge **S213**, press the set button, then the value is displayed on the screen.

(4800 bauds rate, 7 bits, even parity, 2 stops bit



Troubleshooting

- The Dsub9 connector of Opto-RS cable is not connected to the corresponding COM port number.
- f) The port parameters are not correct. (**4800**bd, **7**bits, **even** parity, **2** stop bits)
- g) The Opto-RS cable is defective. (on the Opto-RS cable, the red light should be on when Hyper-Terminal is active).
- h) The Opto-RS instrument is defective.



4.3 Connection with the GageWedge Software

Gage Wedge was designed to be extremely easy to configure for all instruments using the Sylvac measuring instrument chipset.

Step #1

Select the COM port that your measuring instrument is connected to and choose the preferences that you would like to use from the options available in the Gage Wedge Window.

Note : The Postamble Keystroke option in the Preferences group allows you to select an additional keystroke that you would like Gage Wedge to issue after each input from your measuring instrument. You can choose either an Enter keystroke, a Tab keystroke or any if the four arrow keys (Up, Down, Left or Right). You should select the keystroke that you would normally type after a gage reading if you were typing the data manually.

Step #2

Transmit a measurement from your measuring instrument to make sure that the data from the instrument is being inputted correctly. The measurement data from the instrument should appear in the text box marked "Input Data From Gade"

In the Gage Wedge Window.

Step #3

If your measurement data appears correctly in the Gage Wedge Window then everything is working correctly and all you have to do is switch to another Windows application (leave Gage Wedge running) and take measurements. The instrument data should appear in the other application just as if it were being typed in on the keyboard.

Note: You can minimize the Gage Wedge Window and it will continue to function correctly.



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4.4 Connection with the Winwedge 32 Software

WinWedge is primarily designed as a tool for interfacing typical RS232 devices (scales, bar code/mag stripe readers, measuring tools, GPS devices, sensors, pH meters and many different types of laboratory and industrial instruments) to a PC. You can think of WinWedge as a "user configurable serial device driver". WinWedge is designed to run in the background and input data through the serial port and immediately feed that data directly to another program either by converting the data to "keystrokes" so that the data appears in the other application as if it were being typed in on the keyboard or it can also pass data to another program using a feature of Windows called Dynamic Data Exchange (DDE).

Step #1

Click the Setting sub-menu menu in Port menu

Select the COM port that your measuring instrument is connected to.

Select the Parity (*Even*) that your measuring instrument use.

Select the Baud Rate (4800) that your measuring instrument use.

Select the Data Bits (Seven) that your measuring instrument use.

Select the Stop Bits (2) that your measuring instrument use.

Select the Flow Control (*None*) that your measuring instrument use. (Simplex)

Click OK.

Step #2

Click the Analyse sub-menu in Port menu.

Transmit a measurement from your measuring instrument to make sure that the data from the instrument is being inputted correctly. The measurement data from the instrument should appear in the text box marked "Input Data"

Note : When clicking the icon DTR, a measurement is taken from the instrument.

The text box marked "Output" cannot be used because this is for duplex connection.



+008.50)	
Selected Text:	
Start Position: 9 Byte Count:	0 Analyze li
🔲 Activate Pre-Input Character Translat	ion Table
Output	

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4.5 Connection with Standard Basic program

Simplex cable

Serial port opening and parameters	OPEN "COM1:4800,E,7,2,PE"
Power supply setting (RTS = ON, DTR = ON) &H3FC register address (COM2: &H2FC)	OUT &H3FC,&H0B
Set DTR line OFF (RTS = ON, DTR = OFF)	OUT &H3FC,&H0A
Data reading	Line input#1,a\$

4.6 Connection with Visual Basic program

The communication control (MsComm) of Visual Basic must be applied :

Port opening	 ' Use COM1 Comm1.CommPort = 1 ' 4800 baud, even parity, 7 data, and 2 stop bit. Comm1.Settings = "4800,E,7,2" ' Open the port Comm1.PortOpen = True
Power supply setting	' Simplex Cable' Form1.MsComm1.DTREnable = True Form1.MSComm1.RTSEnable = True
Data request	' Simplex Cable ' MSComm1.DTREnable = False Timer1.Interval = 150 Timer1.Enabled = True
Data reading	InString = Comm1.Input



4.7 Specifications

Opto-RS Duplex instrument with Simplex Cable

Connection	
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Plug's power supply.....

RS232 compatible, Dsub 9p female or open

4800 bds, even parity, 7 data bits, 2 stop bits

4-8/sec.(depends on the instrument connected)

15 m according to IEC standards

[Sign | E1-En | "." | F1-Fn | CR] ["ERR" | Number | CR]

From peripherical equipment, with TXD, DTR and RTS lines

Data transmission parameters.....

Max. cable length.....

Number of transmissions/sec.....

Data transmission format.....

4.8 Accessories

USB to RS232 converter cable Order N° 925.1142

Gagewedge for WINDOWS 1- way serial communication capabilities to other windows applications (Excel, Word) Order N° 981.7141 (free on <u>www.sylvac.ch</u>)

Winwedge for WINDOWS (Extremely powerful utility designed to add complete 2 way serial communication capabilities to other windows applications (Excel, Word..)

Order N° 981.7140





5. Opto - Duplex instrument / Opto - Duplex cable

5.1 How to use Opto-RS232 duplex Sylvac instrument with an Opto-RS232 duplex cable :

In both **Duplex instrument** and **duplex cable**, data can be sent from the instrument to the data acquisition system (eg PC), and the command "?" from the PC to the instrument as a data request.

* Other commands are available, depending on connected instrument. (see user's manual of instrument.)



5.2 Connection with the Hyper Terminal Windows Software

This program is available as standard with Windows 95,98,2000, Me, and XP. It cannot be used with a duplex cable.

Cannot be used because, Power supply RTS = V- (not available)

Possibility : By using the Booster n° 925.1150





5.3 Connection with the GageWedge Software

Gage Wedge was designed to be extremely easy to configure for all instruments using the Sylvac measuring instrument chipset.

Step #1

Select the COM port that your measuring instrument is connected to and choose the preferences that you would like to use from the options available in the Gage Wedge Window.

Select the Preferences (Gage Uses OptoRS Duplex Adapter).

Note : The Postamble Keystroke option in the Preferences group allows you to select an additional keystroke that you would like Gage Wedge to issue after each input from your measuring instrument. You can choose either an Enter keystroke, a Tab keystroke or any if the four arrow keys (Up, Down, Left or Right). You should select the keystroke that you would normally type after a gage reading if you were typing the data manually.

Step #2

Transmit a measurement from your measuring instrument to make sure that the data from the instrument is being inputted correctly. The measurement data from the instrument should appear in the text box marked "Input Data From Gage"

In the Gage Wedge Window.

Step #3

If your measurement data appears correctly in the Gage Wedge Window then everything is working correctly and all you have to do is switch to another Windows application (leave Gage Wedge running) and take measurements. The instrument data should appear in the other application just as if it were being typed in on the keyboard.

Note: You can minimize the Gage Wedge Window and it will continue to function correctly.

STEP 1: Select a serial port and choose your preferences. Port:	_ 🗆 🗵
STEP 1: Select a serial port and choose your preferences. Port: Port: Preferences:	
Port: Preferences: None C CDM1 Beep Speaker On Input From Gage	
COM2 Filter Out Non Numeric Characters COM3 Load With Windows At Startup	
CLUM4 Postamble Keystroke: [ENTEG:] STEP 2: Transmit a reading from your gage. If data does not appear correctly in the tex below, you may have to check that your gage is configured correctly or choose a diffe serial port. Input Data From Gage: [c)000.73(ENTER) STEP 3: If data appears correctly, keep Gage Wedge running and switch to another pro When you transmit data from your gage, it will appear in the other application as if it w being typed in.	dt box Frent ogram. Vere
Press Function Key F1 For Help	

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5.4 Connection with the Winwedge 32 Software

WinWedge is primarily designed as a tool for interfacing typical RS232 devices (scales, bar code/mag stripe readers, measuring tools, GPS devices, sensors, pH meters and many different types of laboratory and industrial instruments) to a PC. You can think of WinWedge as a "user configurable serial device driver". WinWedge is designed to run in the background and input data through the serial port and immediately feed that data directly to another program either by converting the data to "keystrokes" so that the data appears in the other application as if it were being typed in on the keyboard or it can also pass data to another program using a feature of Windows called Dynamic Data Exchange (DDE).

Step #1

Click the **Setting** sub-menu menu in **Port** menu Select the COM port that your measuring instrument is connected to.

Select the Parity (*Even*) that your measuring instrument use.

Select the Baud Rate (4800) that your measuring instrument use.

Select the Data Bits (Seven) that your measuring instrument use.

Select the Stop Bits (2) that your measuring instrument use.

Select the Flow Control (*Opto-RS*) that your measuring instrument use. (*Duplex*) Click OK.



Step #2

Click the Analyse sub-menu in Port menu.

Transmit a measurement from your measuring instrument to make sure that the data from the instrument is being inputted correctly. The measurement data from the instrument should appear in the text box marked "Input Data"

Selected Text: Start Position: Start Position: Activate Pre-Input Character Translation Table				
Activate Pre-Input Character Translation Table	ext:			ar Inpu
	Pre-Input Character 1	ount: JU	Ana	lyze Inp
	e Pre-Input Unaracter I	ransiation i able		
Output			1	



Step#3

Click the "Clear Input" Icon to empty the buffer .

- Selected Text:				Clear
Start Position:	9 Byte C	Count: 0		
C Activate Pre-I	nput Character T	ranslation Table		Analyze
Output				7
ASCII Chart	<u>S</u> end	DTR~	<u>B</u> reak	Q
'ort Analyze - CC Input Data	M2:4800,Even	,5even,2	Total Byte Co	ount: 8
'ort Analyze - CC Input Data	M2:4800,Even	,5even,2	Total Byte Co	ount: 8
ort Analyze - CO Input Data - Selected Text: Start Position:	M2:4800,Even	,Seven,2	Total Byte Co	ount 8 <u>C</u> lear
ort Analyze - CC Input Data Selected Text Start Position:	M2:4800,Even	,Seven,2 Count: 0	Total Byte Co	ount: 8 <u>C</u> lear <u>A</u> nalyz
ort Analyze - CC Input Data Selected Text:	M2:4800,Even	,Seven,2 Count: 0 ranslation Table	Total Byte Co	ount: 8 <u>C</u> lear <u>A</u> nalyz
ort Analyze - CO Input Data Selected Text Start Position: Cutput.	M2:4800,Even 9 Byte C nput Character T	,5even,2 Count: 0 ranslation Table	Total Byte Co	unt: 8 lear Analyz
ort Analyze - CC Input Data Selected Text Start Position: Activate Pre- Dutput. ?)	M2:4800,Even	,5even,2 Count 0	Total Byte Co	unt 8 <u>C</u> lear <u>A</u> nalyz

Step#4

Enter in the text box marked "Output", the character "?" then click the icon "ASCII Chart" to select the ASCII code (13 J CR (Carriage Return)) then click OK

Step#5

Click the "Send" icon, this is a request from the PC to send the displayed value on the instrument to PC

The measurement data from the instrument should appear in the text box marked "Input Data"

The full remote commands of the connected instrument can be used.

(See the instruction for use of the connected instrument)

nput Data +18.002 🕽	Total Byte Lount: 18
Selected Text:	
Start Position: 9 Byte Count: 0)
Activate Pre-Input Character Translation	Table
Activate Pre-Input Character Translation Output	Table
Activate Pre-Input Character Translation Output	. Table



5.5 Connection with Standard Basic program

duplex cable	
Serial port opening and parameters	OPEN "COM1:4800,E,7,2,PE"
Power supply setting (RTS = OFF, DTR = ON) &H3FC register address (COM2: &H2FC)	OUT &H3FC,&H09
Data request (<cr> will be automatic using this command)</cr>	Print #1,"?"
Data reading	Line input#1,a\$

5.6 Connection with Visual Basic program

The communication control (MsComm) of Visual Basic must be applied :

Port opening	^c Use COM1 Comm1.CommPort = 1 ^c 4800 baud, even parity, 7 data, and 2 stop bit. Comm1.Settings = "4800,E,7,2" ^c Open the port Comm1.PortOpen = True
Power supply setting	' Duplex Cable' Form1.MsComm1.DTREnable = True Form1.MSComm1.RTSEnable = False
Data request	 ^c Duplex Cable + simplex instrument ^c instruments PM200,201 old generation' MSComm1.Break = True ^c Incremente Timer1.Interval in case of no trans' Timer1.Interval = 10 Timer1.Enabled = True MSComm 1.Break = False ou ^c instruments from S225 new generation' ^c Duplex Cable + simplex instrument ' MSComm1.Output = "?" + Chr\$(13)
Data reading	InString\$ = Comm1.Input



Opto-RS Duplex instrument with Duplex Cable

5.7 Specifications

Connection.....

Plug's power supply.....

Data transmission parameters.....

Max. cable	ength
------------	-------

Number of transmissions/sec.....

Data transmission format.....

5.8 Accessories

Press the foot pedal to send the displayed value on the instrument to the PC . Adapter and foot pedal

Order N° 925.1143 (for Duplex Cable only)

USB to RS232 converter cable Order N° 925.1142

Gagewedge for WINDOWS 1- way serial communication capabilities to other windows applications (Excel, Word)

(free on <u>www.sylvac.ch</u>)

Order N° 981.7141

Winwedge for WINDOWS Extremely powerful utility designed to add complete 2 way serial communication capabilities to other windows applications (Excel, Word..) Order N° 981.7140

RS232 compatible, Dsub 9p female or open

From peripherical equipment, with TXD, DTR and RTS lines

4800 bds, even parity, 7 data bits, 2 stop bits

15 m according to IEC standards

4-8/sec.(depends on the instrument connected)

[Sign ¦ E1-En ¦ "." ¦ F1-Fn ¦ CR] ["ERR" ¦ Number ¦ CR]





6. RS Simplex instrument / Duplex connection + power cable

6.1 How to use RS Simplex instrument with Duplex connection + power supply cable

In both **RS Simplex instrument** and **duplex connection**, data can be sent from the instrument to the data acquisition system (eg PC), and data can be requested from the PC with the remote command "?"



6.2 Connection with the Hyper Terminal Windows Software

This program is available as standard with Windows 95,98,2000, Me, and XP. It can only be used as data transmission from the instrument.

STEP#1

Open the Hyper-Terminal Windows Software.

STEP#2

Enter a name for this connection then click OK. (similar as sylvac_opto_simplex)





RS Simplex instrument with Duplex connection + power supply Cable

STEP#3

STEP#4

Select the port parameters.

Flow Control None, then click ok.)

Select the COM port that your measuring instrument is connected

(4800 bauds rate, 7 bits, even parity, 2 stops bit

		<u>7 ×</u>
Enter the phone number	that you want to dial :	
Countries / States :		~
Area code :		
Phone number :		
	Testeron	



STEP#5

The instrument identification will appear on screen (if S233, SY233.12)

Select MM or IN resolution on digital gauge **S233**, press the set button, then the value is displayed on the screen.

Press once again the set button to release the Hold/Print function.

Press once again the set button to send a new value...

*to send a value at each pressure, the foot pedal n°925.1143 is necessary.

Troubleshooting

- The Dsub9 connector of RS cable is not connected to the corresponding COM port number.
- j) The port parameters are not correct. (4800bd, 7bits, even parity, 2 stop bits)
- k) The RS cable is defective.
- I) The RS instrument is defective.





6.3 Connection with the GageWedge Software

Gage Wedge was designed to be extremely easy to configure for all instruments using the Sylvac measuring instrument chipset.

Step #1

Select the COM port that your measuring instrument is connected to and choose the preferences that you would like to use from the options available in the Gage Wedge Window.

Select the Preferences (Gage Uses OptoRS Duplex Adapter).

<u>Note</u> : The standard simplex can be used as well, but the Set key as to be pressed twice to send one value.

<u>Note</u>: The Postamble Keystroke option in the Preferences group allows you to select an additional keystroke that you would like Gage Wedge to issue after each input from your measuring instrument. You can choose either an Enter keystroke, a Tab keystroke or any if the four arrow keys (Up, Down, Left or Right). You should select the keystroke that you would normally type after a gage reading if you were typing the data manually.

Step #2

Select MM or IN resolution,

Transmit a measurement from your measuring instrument to make sure that the data from the instrument is being inputted correctly. The measurement data from the instrument should appear in the text box marked "Input Data From Gage"

In the Gage Wedge Window.

Step #3

If your measurement data appears correctly in the Gage Wedge Window then everything is working correctly and all you have to do is switch to another Windows application (leave Gage Wedge running) and take measurements. The instrument data should appear in the other application just as if it were being typed in on the keyboard.

Note: You can minimize the Gage Wedge Window and it will continue to function correctly.







6.4 Connection with the Winwedge 32 Software

WinWedge is primarily designed as a tool for interfacing typical RS232 devices (scales, bar code/mag stripe readers, measuring tools, GPS devices, sensors, pH meters and many different types of laboratory and industrial instruments) to a PC. You can think of WinWedge as a "user configurable serial device driver". WinWedge is designed to run in the background and input data through the serial port and immediately feed that data directly to another program either by converting the data to "keystrokes" so that the data appears in the other application as if it were being typed in on the keyboard or it can also pass data to another program using a feature of Windows called Dynamic Data Exchange (DDE).

Step #1

Click the Setting sub-menu menu in Port menu Select the COM port that your measuring instrument is connected to.

Select the Parity (*Even*) that your measuring instrument use.

Select the Baud Rate (4800) that your measuring instrument use.

Select the Data Bits (Seven) that your measuring instrument use.

Select the Stop Bits (2) that your measuring instrument use.

Select the Flow Control (*Opto-RS*) that your measuring instrument use. (*Duplex*) Click OK.

Note : the Flow Control (None) can be use

as well but the Set key as to be pressed twice to send one value. (*Simplex*)

Step #2

Click the Analyse sub-menu in Port menu.

Select MM or IN on your instrument.

Transmit a measurement from your measuring instrument to make sure that the data from the instrument is being inputted correctly. The measurement data from the instrument should appear in the text box marked "Input Data"



nput Data 4008.50¢		Total Byte Count: jo
Selected Text:		
otait nosition: j	19 Byte Lount: JU	Analyze Ir
C Activate Pre-I	nput Character Translation	Table
C Activate Pre-li	nput Character Translation	Table
Cutput	nput Character Translation	Table



Step#3

Click the "Clear Input" Icon to empty the buffer .

nput Data			Total Byte Count	: 8
Selected Text	9 Byte Cou	nt 0		<u>C</u> lea <u>A</u> naly
Output]	
		1	1	
Ascirchar			<u>Break</u>	<u>0</u>
port Analyze - CO	<u>s</u> enu M2:4800,Even,Se	DIH~	<u>Break</u>	. @
Addirenat ort Analyze - CO nput Data - Selected Text Start Position:	<u>seriu</u> M224800,Even,Se 9 Byte Cou	even,2	Ereak Total Byte Count	: [8 <u>C</u> lea <u>A</u> naly
Addit Chart ort Analyze - CO nput Data Selected Text: Activate Pre- Output 2)	Serru M2:4800,Even,Se 9 Byte Cou	ven,2	Ereak Total Byte Count	: 8 Clea

Step#4

Enter in the text box marked "Output", the character "?" then click the icon "**ASCII Chart**" to select the ASCII code (13 JCR (Carriage Return)) then click OK

Step#5

Click the "Send" icon, this is a request from the PC to send the displayed value on the instrument to PC

The measurement data from the instrument should appear in the text box marked "Input Data"

This is the only remote command that you can use with a Simplex instrument connected with a Duplex Cable.

+18.002)	-
Selected Text:	
Start Position: 19 Byte Count: 10	Analyze Inpu
Activate Pre-Input Character Translation Ta	able
- Output	
oupu	
50000	



RS Simplex instrument with Duplex connection + power supply Cable

6.5 Connection with Standard Basic program

duplex cable	
Serial port opening and parameters	OPEN "COM1:4800,E,7,2,PE"
Power supply setting (RTS = OFF, DTR = ON) &H3FC register address (COM2: &H2FC)	OUT &H3FC,&H09
Data request (<cr> will be automatic using this command)</cr>	Print #1, "?"
Data reading	Line input#1,a\$

6.6 Connection with Visual Basic program

The communication control (MsComm) of Visual Basic must be applied :

Port opening	[•] Use COM1 Comm1.CommPort = 1 [•] 4800 baud, even parity, 7 data, and 2 stop bit. Comm1.Settings = "4800,E,7,2" [•] Open the port Comm1.PortOpen = True
Power supply setting	' Duplex Cable' Form1.MsComm1.DTREnable = True Form1.MSComm1.RTSEnable = False
Data request	 ^c Duplex Cable + simplex instrument ^c instruments PM200,201 old generation' MSComm1.Break = True ^c Incremente Timer1.Interval in case of no trans' Timer1.Interval = 10 Timer1.Enabled = True MSComm 1.Break = False ou ^c instruments from S225 new generation' ^c Duplex Cable + simplex instrument ' MSComm1.Output = "?" + Chr\$(13)
Data reading	InString\$ = Comm1.Input



RS Simplex instrument with Duplex connection + power supply Cable

6.7 Specifications

Connection.....

Plug's power supply.....

Data transmission parameters.....

Max. cable	length				
------------	--------	--	--	--	--

Number of transmissions/sec.....

Data transmission format.....

6.8 Accessories

Press the foot pedal to send the displayed value on the instrument to the PC . Adapter and foot pedal

Order N° 925.1143 (for Duplex Cable only)

USB to RS232 converter cable Order N° 925.1142

Gagewedge for WINDOWS 1- way serial communication capabilities to other windows applications (Excel, Word)

(free on <u>www.sylvac.ch</u>)

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Winwedge for WINDOWS Extremely powerful utility designed to add complete 2 way serial communication capabilities to other windows applications (Excel, Word..) Order N° 981.7140

RS232 compatible, Dsub 9p female or open

From peripherical equipment, with TXD, DTR and RTS lines

4800 bds, even parity, 7 data bits, 2 stop bits

15 m according to IEC standards

4-8/sec.(depends on the instrument connected)

[Sign ¦ E1-En ¦ "." ¦ F1-Fn ¦ CR] ["ERR" ¦ Number ¦ CR]





7. How to use the USB-RS232 converter cable



Setup (e.g. Windows XP)

Step#1

Switch ON your computer

Step#2

Plug the cable into a free USB port on your computer. **Step#3**

Jiep#J

The "Welcome to the Found New Hardware Wizard" should appear. If it doesn't, go to step#10.

Step#4

Ensure the product driver CD (Included with package) has been inserted in your CD-ROM drive.

Step#5

Select the option "Install the software automatically(Recommended)"

Step#6

Click "Next"

Step#7

Windows should find the "Prolific USB-to-Serial Comm Port" driver.

Step#8

You will probably see a message indicating the driver has not passed Windows Logo testing, click "Continue anyway. This warning can be safely ignored because the driver does work on XP.

Step#9

Press "Finish" when prompted by Windows to complete the installation.

Step#10

Open Device Manager by doing the following :

- a) Click on "Start" and then "Control Panel"
- b) Double click on "System"
- c) Select the Hardware tab.
- d) Click the "Device Manager"
- e) Click on Com / LPT
- f) Click on Prolific USB-to-Serial
- g) Select Port Parameters
- Select 4800 bds, 7 bits, even parity, 2 stop bits, flux none.
- I) Click on advanced icon then select the virtual COM available.
- J) Click OK on all open menu to quit the setup Configuration.



8. Compatibility

			Send Data			
Code N°	Type of instrument	Type of cable	From instrument	By DTR	By Foot-pedal	By remote commands
Calipers						
S 235	Opto-RS simplex	Opto Simplex	Yes, direct	Yes	No	No
		Opto duplex	Yes, Hold ABS	No	Yes, direct	PRI/?
ULIII	Opto-RS duplex	Opto simplex	Yes, Ref Hold	Yes	No	No
		Opto Duplex	Yes, Mode REF	No	Yes, direct	Yes
Microcal	Opto-RS simplex	Opto simplex	Yes, Ref Hold	Yes	No	No
		Opto Duplex	Yes, Ref Hold	No	Yes, direct	PRI/?
Dial Gauges						
S229	Opto-RS simplex	Opto Simplex	Yes, Mode REF	Yes	No	No
		Opto Duplex	Yes, Ref Hold	Non	Yes, direct	PRI/?
S213	Opto-RS duplex	Opto Simplex	Yes, Mode REF	Yes	No	No
		Opto Duplex	Yes, Mode REF	No	Yes, direct	Yes
S233	RS 232 simplex	RS Duplex	Yes ABS/hold	No	Yes, direct	Pri/?
S233 ana	RS 232 simplex	RS Duplex	No	No	Yes, direct	Pri/?
S234	RS 232 simplex	RS Duplex	No	No	Yes, direct	Pri/?
Protractor						
S239	Opto-RS simplex	Opto Simplex	Yes, Mode REF	Yes	No	No
		Opto Duplex	Yes, Ref Hold	No	Yes, direct	Pri/?
Bore Gauges						
XT/XTH	Opto-RS duplex	Opto Simplex	Yes, Mode REF	Yes	No	No
		Opto Duplex	Yes, Mode REF	No	Yes, direct	Yes
Digital micrometer screws						
S246	RS 232 simplex	RS Duplex	Yes ABS/hold	No	Yes, direct	Pri/?

Note :

To use software such as Labview or others, where RTS & DTR line cannot be set individually. It is recommended to connect the booster (below) which will generate the V- power supply.



Booster N° 925.1150





Version 01/SYL-681.068-100