

Programmable Phase Shifter Units Models 8420 & 8421

DC to 6.0 GHz



Local, Ethernet, USB & RS-232 Control

Description

API Tech / Weinschel's Model 8420 and 8421 Series represent a new streamlined approach in signal phase shift control for bench test and subsystem applications. This series is designed to house and control API Tech / Weinschel's New Programmable Phase Shifter series via front panel controls, Ethernet, USB and Serial communications interfaces.

The 8420 series are single or dual channel configurations housed in half rack enclosures. The 8421 series are multi-channel configurations housed in 19 inch enclosures and can be configured for up to 12 channels. Connector locations for both series can be configured for front or rear. Through (front to rear) is only available for 8421 Series.

API Tech / Weinschel also provides custom subsystems where a variety of test configurations can be incorporated within a single unit. Contact us with your specialized needs.

Applications

Applications for the 8420 and 8421 Series range from providing control of a single Programmable Phase Shifter in a bench test/lab environment, to complex system applications where the 8420/8421 Series are employed in conjunction with many devices to create custom subsystems to reduce overall design cost. Multiple programmable phase shifters can be used in conjunction with other coaxial devices such as attenuators, switches, power combiners, directional couplers, and filters to create various multi-channel test configurations.



**Benchtop Unit
Model 8420**



**19" Rack with Front-panel control
Model 8421**

Features

- Provides a flexible, easy to program, low cost solution for your bench test/calibration setups and subsystem applications.
- Front panel local control and display make it ideal for lab and manual test environments.
- Multi-Channel phase adjustment paths (up to 2 channels for 8420 & up to 12 channels for 8421)
- Phase Shift Range from 0° to 630° in 10° steps @ 6 GHz (Nominally Linear with Frequency)
- LabVIEW based Control Software included.
- Supplied with standard communication interfaces:
 - Ethernet (10/100 BaseT)
 - USB 2.0
 - RS-232 (Serial)
- Rack Configurable: Rack ears are supplied with Model 8421 Series units only.

Control Software Included

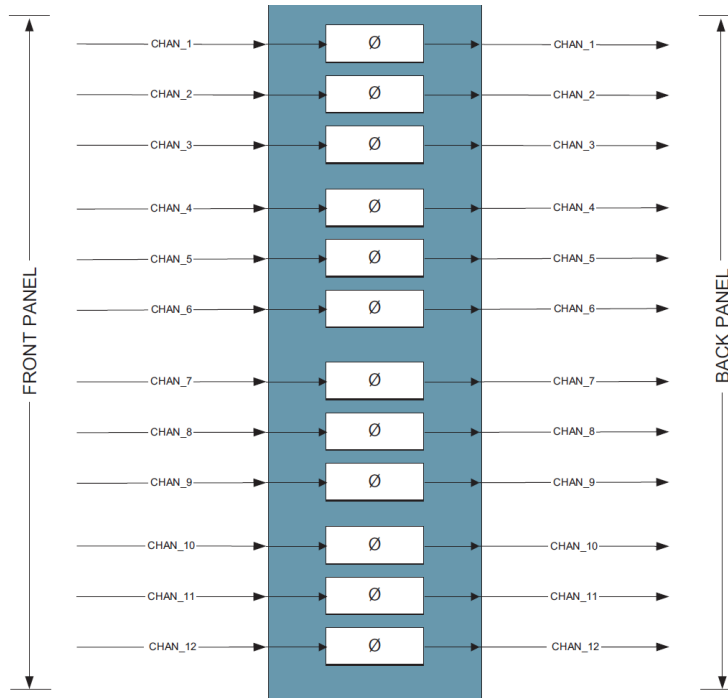
API Tech / Weinschel's LabVIEW based Control Center Software can be used in conjunction with the operation of this series of programmable phase shifter units and allows the user to setup, control and perform test and measurements over standard communication interfaces such as RS-232, USB, and Ethernet.

For additional information on the Model 8420 & 8421, visit our website @ www.weinschel.apitech.com

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Simplified 12 Channel Block Diagram

Specifications

Specification	Description	
Input Power Requirements	ac	100 to 240 Vac, 50/60 Hz, 30 Watts (8420) and 100 Watts (8421) max.
Environmental	Operating Temperature	0° to +50°C
	Storage Temperature:	-40° to +75 °C
	Humidity:	20-90% (non-condensing)
	Altitude:	10,000ft (3,048M)
RS-232 Bus ⁽¹⁾ Serial I/O	Connector:	9-pin male D
	Signals:	TXD, RXD, RTS, CTS, GND
	Baud Rates:	9600 to 230400
	Data Bits:	8
	Handshaking:	None, RTS/CTS
	Parity:	None
USB 2.0	Connector:	Mini B
Ethernet	10/100 Base T Connector:	Standard RJ45
RF Characteristics⁽³⁾	Refer to Configuration Matrix (below)	
CE & UL Compliant	MET E113609 complies with UL61010-1 CSA C22.2 NO. 61010-1, CE CAN ICES-3 (B)/NMB-3(8)	

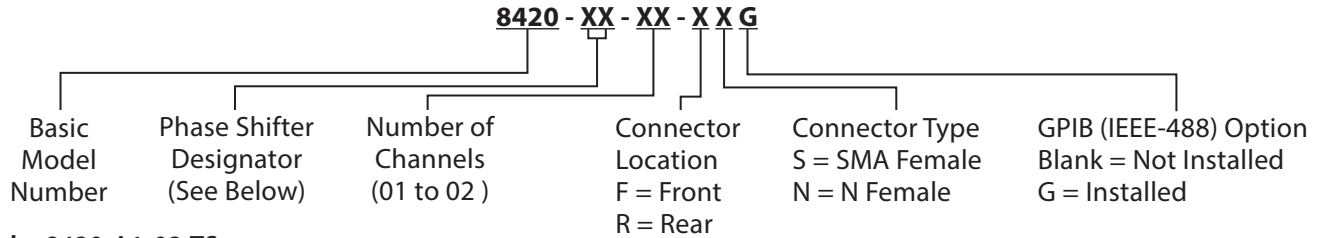
1. RS-232 can be used with standard PC serial port for short and medium distances (up to approximately 50 ft.)
2. Refer to Individual data sheet for detailed specifications on internal devices.

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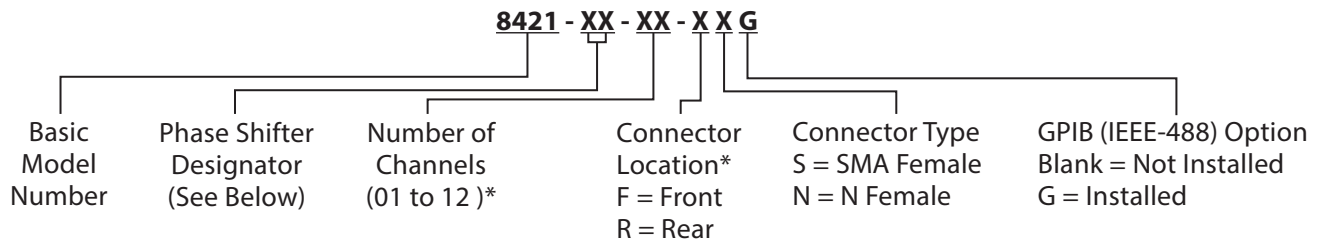
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Model Number Configuration Matrix



Example: 8420-A1-02-TS



Example: 8421-A1-12-TS-G

* Up to 6 Channels for option F & R (Front or Rear)

Electro-mechanical											
Frequency Range	Phase-Shifter Designation		Phase-Shifter Model	Range @ 6 GHz	Step Size	Connector Options		Max # of Phase shifter / Channels per unit			
						S (SMA)	N	8420 (Front to Rear)	8420 F(ront) or R(ear)	8421 (Front to Rear)	8421 F(ront) or R(ear)
DC - 6 GHz	A	1	984-1	630°	10°	X	X	4	2	12	6
DC - 6 GHz	A	2	984-2	126°	2°	X	X	4	2	12	6

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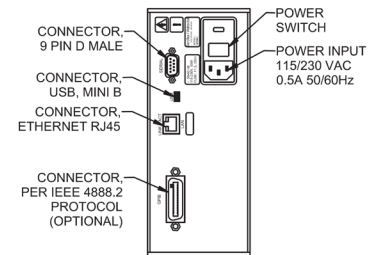
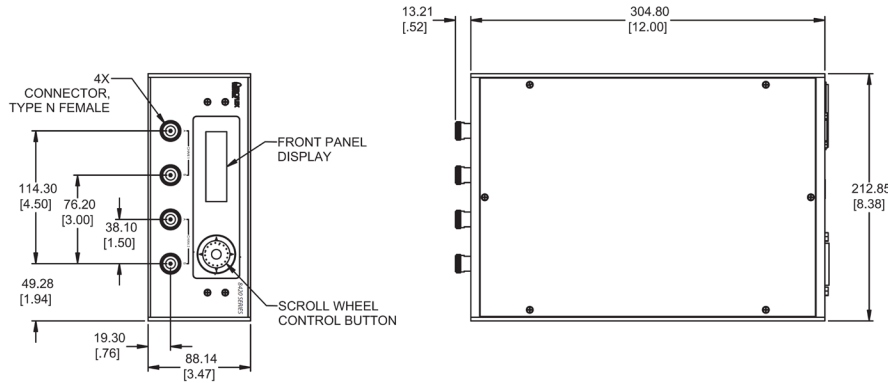
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Physical Dimensions

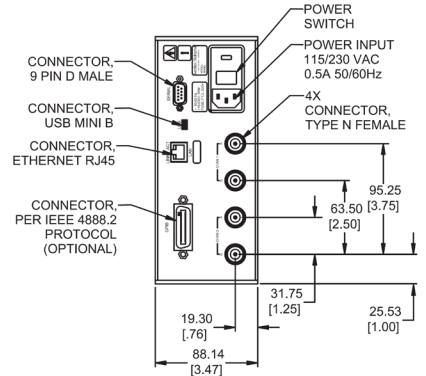
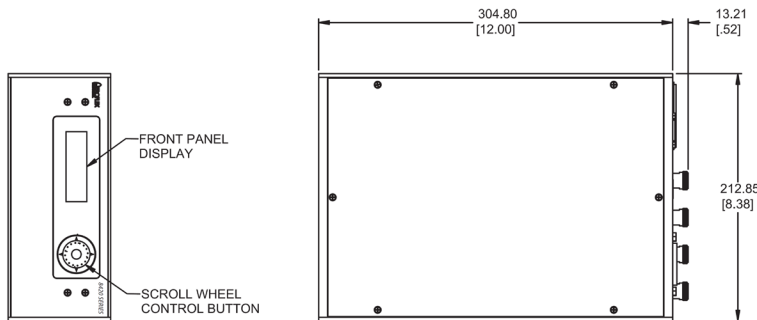
Model 8421 Series

Half Rack Unit, 1 or 2 channels:

FRONT OPTION:



REAR OPTION:



Connector Type	DIM A
N	14.7 (0.60)
SMA	5.21 (0.21)

Notes:

1. All dimensions are given in mm (inches).
2. Connectors and hole plugs are installed as required and determined by number of channel in unit. 2 channel shown for Model 8420 and 8 channel unit shown for 8421.
3. Connector location (Front/Rear) may vary depending on Model ordered.

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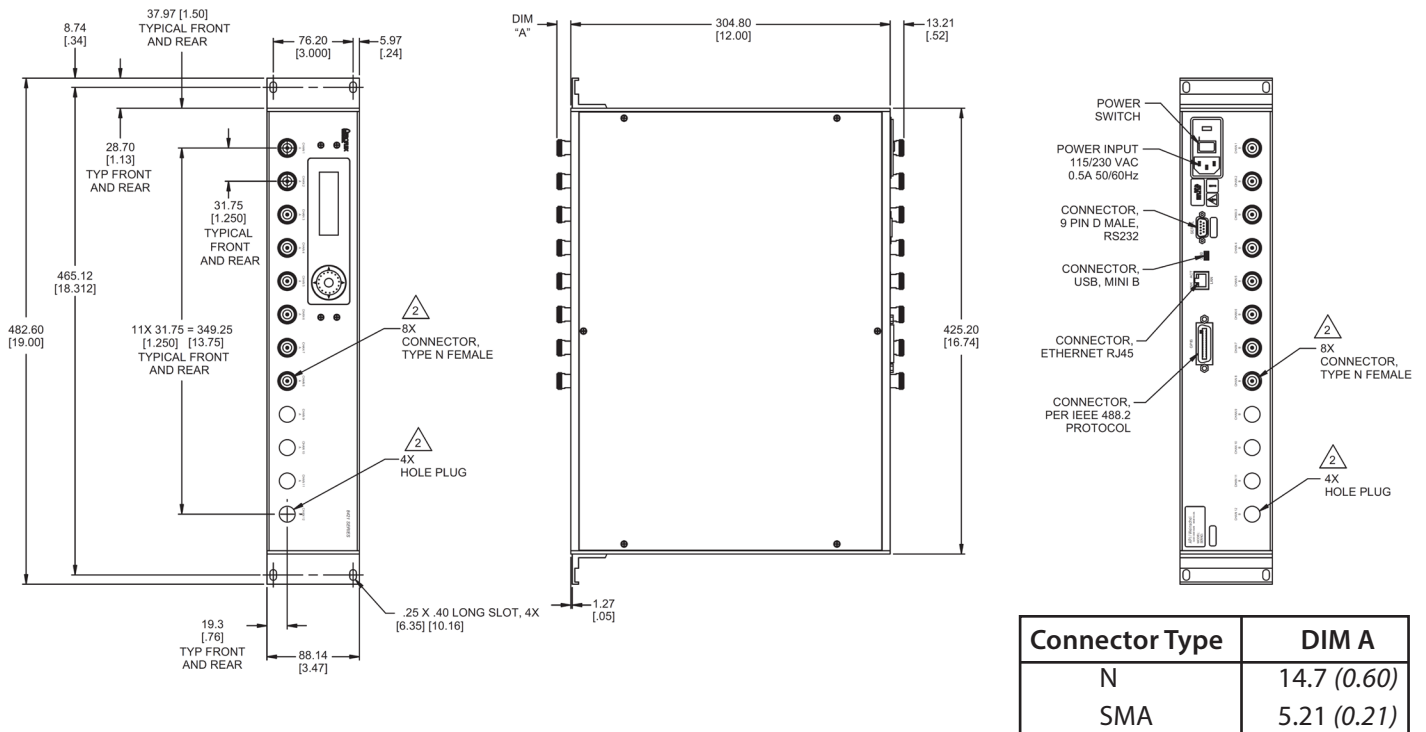
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Physical Dimensions

Model 8421 Series

Standard 19 in Rack Unit up to 12 channels:



Connector Type	DIM A
N	14.7 (0.60)
SMA	5.21 (0.21)

Notes:

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