

Programmable Switches

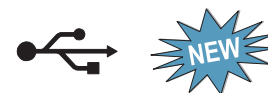


Model 4284

Digital Switch, SP4T

TTL & USB Control, SMA Connectors

0.1 to 6 GHz



RoHS



Features

- /// Ideal for Automated Test Equipment (ATE), WiMAX, LTE, WiFi, 3G/4G Fading Simulators, Engineering/ Production Test Lab environments
- /// Excellent Solid-state Repeatability & Performance
- /// Uninterrupted RF when changing switch positions
- /// Control Software Included
- /// Ruggedized Construction

Description

Aeroflex / Weinschel's New series of MMIC Digital Switches operates over the 0.1 to 6 GHz frequency range. This single pole 4 throw switch can be controlled using either parallel TTL or USB interfaces.

Specifications

NOMINAL IMPEDANCE:	50 Ω
FREQUENCY RANGE:	0.1 to 6.0 GHz
SWITCH TYPE:	Terminated SP4T
SWITCHING SPEED:	1 μ sec maximum (TTL) 5 msec typical (USB)
VSWR:	1.5:1 maximum

MAXIMUM INSERTION LOSS (dB):

Frequency (GHz)	Typical	Minimum
0.1 - 3.0	2.5 dB	3.0 dB
3.0 - 6.0	4.0 dB	4.5 dB

ISOLATION, MINIMUM(dB):

Frequency (GHz)	Typical	Maximum
0.1 - 3.0	60 dB	55 dB
3.0 - 5.0	48 dB	42 dB
5.0 - 6.0	38 dB	30 dB

POWER RATING:	1 Watt maximum
OPERATING VOLTAGE:	+5 V @ 50 mA
CONTROL LOGIC:	TTL or USB
TEMPERATURE RANGE:	0°C to + 70°C

TEST DATA: Test data can be provided at additional cost.

CONNECTORS: SMA female connectors - mates nondestructively with other SMA connectors per MIL-C-39012, 3.5mm and other 2.92mm connectors.

CONTROL CONNECTOR: The TTL control connector is an AMP-Latch 10 pin ribbon cable connector that mates with AMP P/N 746285-1 (supplied with each unit). The USB is a 5-pin female series B mini socket and mates with most standard USB 5-pin male series B mini plug connectors.

WEIGHT: 83 g (2.92 oz)

Control Software Included

Aeroflex / Weinschel's Labview based USB Control Center Software (UCS) can also be used in the operation of this series of digital switches. The UCS will allow the user to setup, control and perform test and measurements using these digital switches over a standard USB 2.0 communication interface.



CONTROL CONFIGURATION:

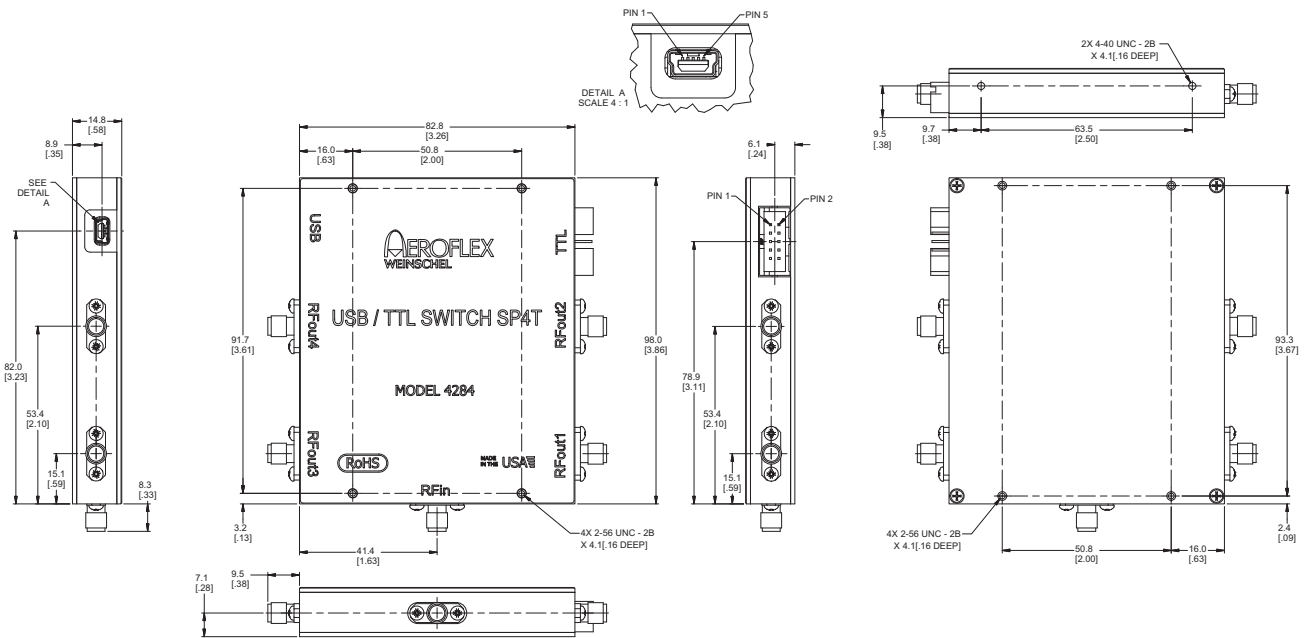
Aeroflex / Weinschel's LabVIEW™ based Switch Control Center Software (SCCS) is to be used in conjunction with the operation of the Aeroflex / Weinschel 4284 series of programmable switches. The SCCS will allow the user setup, control and perform tests and measurements using these programmable switches over standard communication interfaces.

Units are supplied with both parallel-TTL and USB 2.0 interfaces. The mode of operation is determined by the source of DC power to the unit. NOTE: Do not simultaneously connect DC power to the J4 TTL connector while the USB is connected or to the USB while the J4 TTL is connected.

USING TTL CONTROL: Each unit is supplied with a mating 10 pin connector (Amp 746285-1). Refer to Physical Dimensions for mating connector pin/wiring details. Two pins are specified for supply voltage and ground. The remaining pins will accept TTL control signals to activate or de-activate a particular switch position.

USING USB CONFIGURATION: The USB interface is compatible with standard USB 2.0 interfaces. In USB mode, DC power to the switch is provided by the host USB connection. The switch operates as a USB CDC device and accepts simple ASCII text commands. This allows the unit to be controlled from any system capable of sending data via a standard COM port-style interface.

PHYSICAL DIMENSIONS:



PIN Designation Truth Table:

D0	D1	OUT
0	0	RFout1
1	0	RFout2
0	1	RFout3
1	1	RFout4

USB Control Connector J3 Pin Locations:

USB Conn PIN No. (J3)	Function
1	V BUS +5 V
2	Data-
3	Data+
4	ID (NC)
5	GND

TTL Control Connector J4 Pin Locations (See note 2):

TTL Conn PIN No. (J4)	Function
1	D0
2	D1
3	NC
4	NC
5	NC
6	PULL-UP2
7	PULL-UP1
8	Bootloader N
9	+5V
10	GND

NOTES:

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. As an alternate traditional TTL control, the control pins (D0 and D1) can be poered by PULL-UP 2 or PULL-UP 1. The Bootloader pin ia a no connect pin for factory use only.

NC = Not Connected.