

32 Channel Programmable DC Current Sink / SP8T

Features

- wideband 100 kHz...8500 MHz
- 32 programmable DC loads
- 0...400 mA in 0.5 mA steps
- optical indication of phantom voltage
- rugged modular design
- SP8T RF switch for cellular signal distribution

Applications

- car infotainment tests
- product validation
- R&D
- production



Scope

The PT-32CH/SP8T is specially designed for the test of car infotainment components. It supports up to eight DUTs (**D**evice **U**nder **T**est), each with four antenna inputs for broadcast signals (unidirectional) and one antenna input for cellular signals (bidirectional). The PT32CH/SP8T is modular designed using slot-in modules.

Wideband

The RF path of each channel is designed for the frequency range 100 kHz to 8500 MHz. Thereby the PT-32CH/SP8T is universal useable for all common broadcast and cellular standards.

Programmable Current Sinks

Each channel has a programmable current sink for phantom supply tests of the DUTs. The current sinks are settable in the range 0...400 mA in steps of 0.5 mA. The currents are settable by remote commands. Additional the phantom supply voltage of each channel can be read out via remote interface.

Distribution of Bidirectional Signals

For the distribution of bidirectional signals like cellular signals, the PT-32CH/SP8T is equipped with an SP8T RF wideband switch. The switch is designed for the frequency range from 100 kHz up to 8500 MHz. The switch can also be remote controlled by the remote interface.

Remote Control

The PT-32CH/SP8T has a LAN and a USB remote interface. For remote control of the device, commands and data messages are partly in line with the SCPI99 standard. (Standard Commands for Programmable Instruments).

Temperature Protection

As a physical law, each current sink produces heat by changing electrical energy to heat. The PT-4CS modules inside the PT-32CH/SP8T have heat sinks to get a good thermal coupling to the environment.

To avoid damages to the device, each DC current sink are equipped with a temperature sensor. In the case of exceeding +60°C the current sink is switches off by the firmware.

Short Specifications

Current Sinks

Parameter	Symbol	Min	Typ	Max	Unit	Condition
impedance	Z		50		Ohm	
number of channels	n		32			8 x CH1, CH2, CH3, CH4
low frequency	f _{min}		50	100	kHz	
high frequency	f _{max}	8000	8500		MHz	
RF power	P _{in}			+20	dBm	
voltage range	U _{PH}	0		15	V	18 V absolute maximum
current range	I _{PH}	0		400	mA	settable in 0.5 mA steps
total power dissipation	P _{PHmax.}			24	W	shutdown by firmware at 60°C module temperature
connectors		SMA female				

For more details please refer datasheet of slot-in module PT-4CS.

SP8T RF Switch

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Impedance	Z		50		Ohm	
configuration			SP8T			1 X 8
low frequency	f _{min}		50	100	kHz	
high frequency	f _{max}	8000	8500		MHz	
transfer power	P _{in hot}			+20	dBm	f ≥ 6 MHz, CW, hot switch
	P _{in CW}			+30	dBm	f ≥ 6 MHz, CW, switch closed
connectors		SMA female				

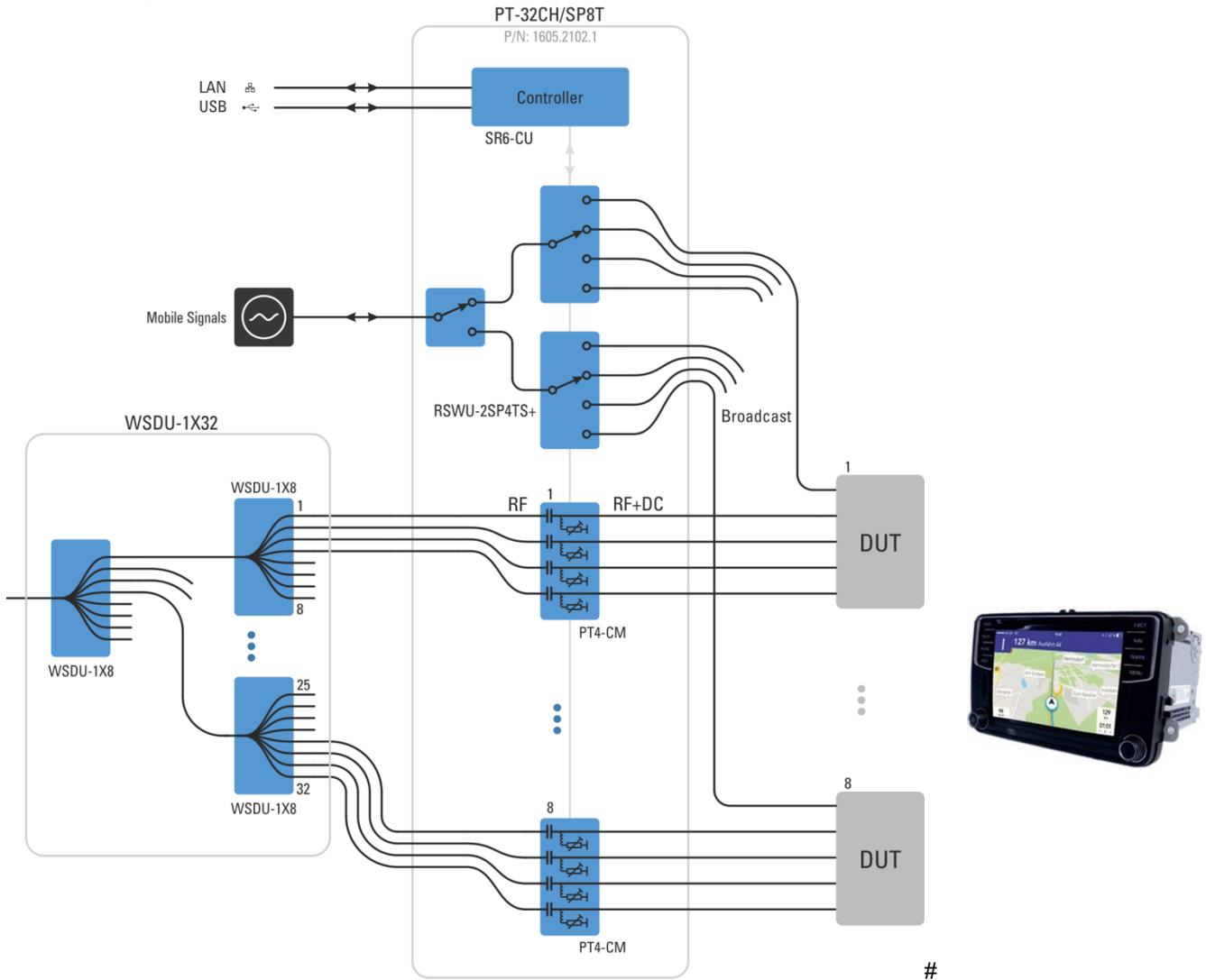
For more details please refer datasheet of slot-in module RSWU-2SP4TS+.

Common Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
input voltage	V _{in}	90		260	V _{AC}	50 / 60 Hz
input harmonics		compliant EN61000-3-2				
power consumption	P		21		W	
dimensions	W x H x D	approx. 482 x 267 x 180			mm	19" 6 U
weight			1.7		kg	
operating temp. range	T _o	+5		+40	°C	ambiance
storage temp. range	T _s	-40		+70	°C	
ordering information	P/N:	1605.2102.1		PT-32CH/SP8T		
designation	32 Channel Programmable DC Current Sink / SP8T					



Block Diagram



The block diagram shows the arrangement for supplying eight DUTs with RF signals. Each DUT has four broadcast antenna inputs and one antenna input for cellular radio.

Front View



Rear View



Rear view shows RSWU-2SP4TS+ switch with RF cables for SP8T "1X8" configuration

Related Products

Product	Description	P/N
SR6-11C	6 U Universal System Platform with 11 Slots for RF Modules	1409.1202.1
SR6-CU	Controller Module for SR6-11C System Platform with USB & LAN Interface	1409.3000.1
RSWU-2SP4TS+	2 Channel SP4T plus 1 Channel SP2T Switches, Non-reflective, 100 kHz...8500 MHz	1408.4040.1
PT-4CS	4 Channel Programmable DC Current Sink, 0...400 mA	1605.2020.1
WSDU1X8	High Dynamic 1X8 Multicoupler Slot-In Module 100 kHz ... 4000 MHz	1202.6100.1
SMASMA-50	RF Cable SMA SMA, l = 50 cm (recommended for RF cabling between modules)	1202.0247.1
FDMX	Frequency De-Multiplexer for Broadcast and Navigation Signals	1310.6003.1
FDMX-PT	Frequency De-Multiplexer for Broadcast and Navigation Signals with programmable current sinks	1310.6003.2

