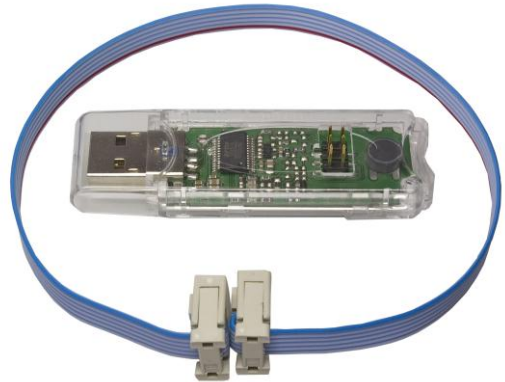# USB Level Shifter Stick Low Power

Data Sheet

- The USB Level Shifter converts an existing USB interface to a TTL-UART interface with variable operating voltage, as it is often used for trace and debug functions.

- The UART interface level automatically adapts to the operating voltage of the target.

- The load of the USB Level Shifter on the Target is less than 4.0 µA. This extremely low demand makes it ideal for battery operated circuits.

- Level conversion takes place for the UART signals TxD and RxD.

- The RxD and TxD signal cross over takes place in the USB Level Shifter.

- A 6-pin 1:1 connection cable for the target connection is included.
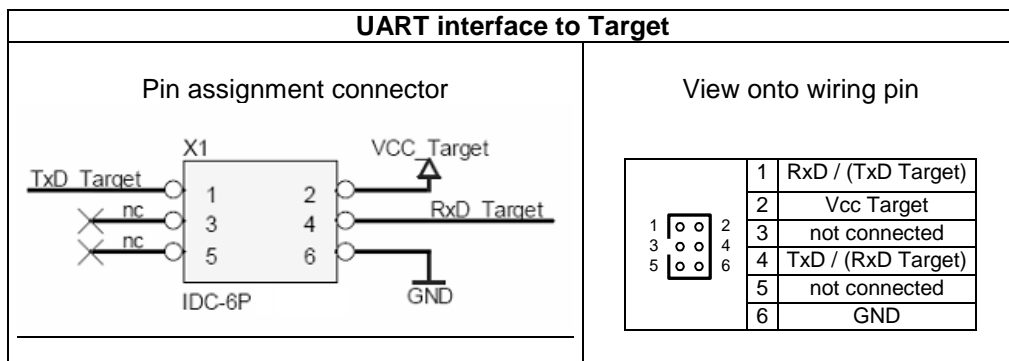
General technical data

Technical Data

Power supply	from USB
Target operating voltage	1.8V to 5.0V
Power consumption	USB typ 20mA ; max. 100mA;
	Target 5.0V – max. 4.0µA*
	3.3V – max. 2.5µA
	1.8V – max. 1.5µA
Connection to Target	6-pin male header
Target cable	Flat ribbon cable 280mm
	6-pin female connector on both ends
	color coding for Pin1 = blue
Connection to PC	USB 2.0 Typ A
Housing	ABS, transparent
Dimensions	L x W x H = 71 x 23 x 9 mm
	(71 x 23 x 22 mm**)
Control and display elements	3 x LED: red, yellow, green
Interfaces	to Target:
	UART, TTL-Pegel 1.8V to 5.0V
	300 baud to 1 mega-baud
	7 or 8 data bit; 1 or 2 stop bit
	parity odd / even / mark / space / no
	to PC:
	USB 2.0 Full Speed compatible
Operating temperature	+5 to +40°C
Storage temperature	-25 to +70°C
Type of protection	IP20

* $V_{Target} < V_{USB}$
** including connected Target cable

Pin configuration

UART interface to Target

Pin assignment connector	View onto wiring pin

1	RxD / (TxD Target)
2	Vcc Target
3	not connected
4	TxD / (RxD Target)
5	not connected
6	GND

Notifications

red	Level Shifter operational
	- enumerated by USB host
	- Target voltage on
yellow	receiving data over USB
green	transmitting data over USB
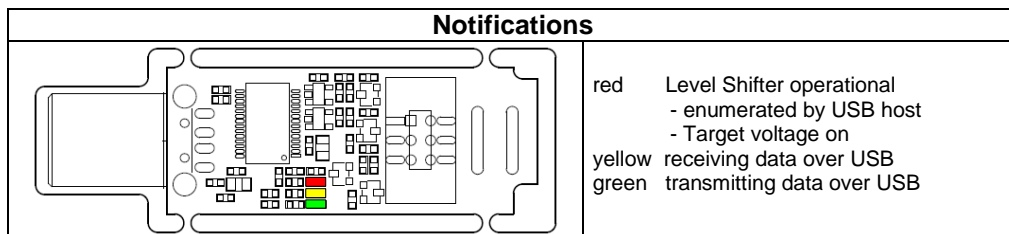
Scope of delivery   **Order No.**
USB Level Shifter Stick Low Power with Target Cable   BN-031645

Accessories / Spare parts
USB Level Shifter Target Cable   BN-031644
USB Cable Type A / A length 1.8m   BN-018198

Versions
USB Level Shifter Stick Basic   BN-031648

Suitable for
deRFtoRCB Adapter   BN-028216
deRFnode family   see homepage
deRFgateway family   see homepage
deRFdevelopment Kits   see homepage

Online orders: http://www.dresden-elektronik.de/shop/cat4.html