



J2200A Optocoupler CTR Module USER'S GUIDE

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Product Overview

In the past, figuring out optocoupler's DC/ Δ CTR values has always taken a bit time or has required costly equipment. Now the J2200A can solve these issues.

1. Product Applications

The J2200A can be used as ...

1. An IQC tester for identifying real or fake optocoupler units.
2. A classifier for factory workers to rank and mark the optocoupler's DC CTR values.
3. A circuit-design tool for engineers and students to match one optocoupler's DC CTR or Delta CTR value with another.

2. Product I/O

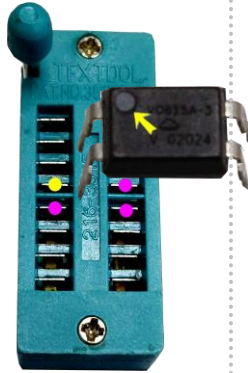
Input Power

Used with the M3522A 6 1/2 DMM, it requires a type-C cable to connect (you can use the M3522A's front USB plug outputs 5V/0.5A).



Optocoupler Insert Socket

When inserting an optocoupler into the socket, the pin with a black point (yellow arrow) needs to be plugged into the yellow point of the socket. When it's in place, push the bar down to fasten.



※ **Note1: The hot plugging for each DUT on J2200A is allowable.**

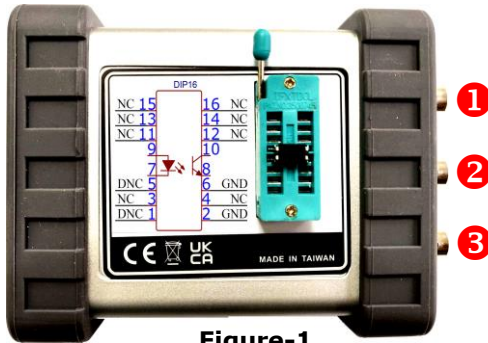
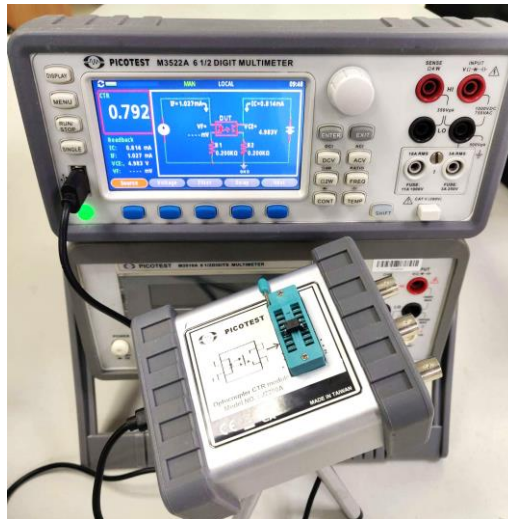


Figure-1

3. CTR Connection State

When the connection is made, power on your DMM. The overall state will show up like the picture below.



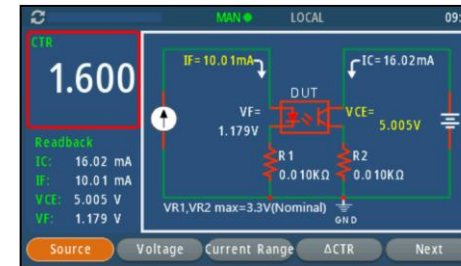
Optional Bode 100 VNA Connections

Besides the M3522A, you have other ways to check CTR values. For example, via Bode 100, connect OSC, CH1, and CH2 to the same ports at ① ② ③ on J2200A (See Figure-1).

4. M3522A Operation/Setup

Using the Current Range Auto section, you don't need to setup anything. Just make sure everything is connected correctly to your M3522A and J2200A. Then the display will switch to the CTR mode automatically as shown below.

In the picture, the red frame shows the measured CTR values, and the white frame shows the DUT condition with the variations of IC/IF/VCE/VF.



For the advanced setup, the source IC/IF and voltage current VCE/VCC are available to setup (Valid Range: 10uA ~ 40mA).

There are current ranges you can choose according to your application, such as...

1. 1mA: Rsense 1K Ω
2. 10mA:Rsense 100 Ω
3. 100mA:Rsense 10 Ω

In addition, to smooth/average the readings, you can setup the counts via entering Filter section.



Warning

- To avoid damaging the J2200A, please do not input any external power into the J2200A or DUT.

5. Specifications

Under 20 ~ 40°C / USB Power: 5V/0.5A

1. Output Rating

Item	min	max
VCC	0.5V	15V
VCE	0.5V	15V(i)
IF(AutoRange)	0.05mA	40mA
IF(@1mA)	0.05mA	1.6mA
IF(@10mA)	0.5mA	16mA
IF(@100mA)	5mA	40mA
IC(AutoRange)	0.05mA	40mA
IC(@1mA)	0.05mA	1.6mA
IC(@10mA)	0.5mA	16mA
IC(@100mA)	5mA	40mA

2. Programming Accuracy

Item	%
VCC(Setting+Range)	1%+50mV
VCE(Setting+Range)	1%+50mV
IC(Setting+Range)	0.5%+0.5%
IF(Setting+Range)	0.5%+0.5%
IF(Setting+Range)	0.5%+0.5%

3. Read-Back Accuracy

Item	%
VCC(Reading+Range)	1%+50mV
VCE(Reading+Range)	1%+50mV
IC(Reading+Range)	0.5%+0.5%
IF(Reading+Range)	0.5%+0.5%
VF	50mV
CTR	5%
Δ CTR	10%

4. FRA Port (Typical)

Item	Value
OSC level	<13dBm
Usable Bandwidth	10~100KHz
Modulator Gain(@1mA)	0.0625mA/V
Modulator Gain(@10mA)	0.625mA/V
Modulator Gain(@100mA)	6.25mA/V

Note:

(i)VCC = VCE+IC*Rc, VCE<=VCC

※ **Note2: The above specifications are subject to change without notice due to design improvements.**