NL603 - COUNTER (& Divider)

COUNTER

NL603

RESET
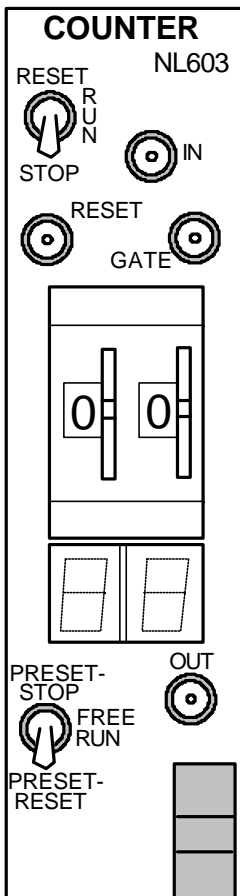
R
U
N

STOP

IN

RESET

GATE

0 0

PRESET-
STOP

OUT

FREE
RUN

PRESET-
RESET

Introduction

The **NL603 COUNTER** is a two-decade counter incorporating a display. It can function in three different modes to give counting, gating of an external pulse generator or division of an input frequency. The unit has a GATE input as well as a RESET to allow electrical control.

Multiple units may be combined for higher count or resolution.

The three modes are -

FREE-RUN - (Counter). The display shows the count of the input signal.
PRESET-STOP - (Comparitor). This can be used to GATE an oscillator.
PRESET-RESET - (Freq. Divider). There will be 1 pulse out for each n pulses in.

A brief logic pulse at the RESET input causes the counter to reset to 00; the NL603 will remain at 00 as long as the input to RESET is high. If no connection is made to the GATE input, the counter counts each IN pulse. An externally applied low logic level to the GATE input inhibits the count; the counter responds to each IN pulse when the GATE input is high. The following timing diagram illustrates the operation of the NL603 COUNTER.

Specification

Summary

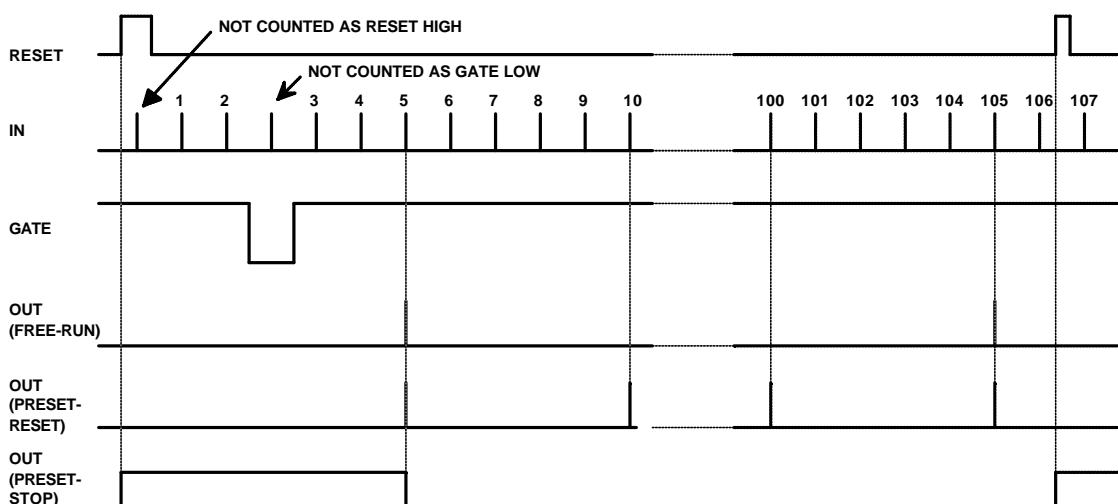|	
Inputs	: TTL pulses
Output fan-out	: 10 TTL inputs
Output pulse width	: 0.5 µs (nom.) - (FREE RUN & PRESET-RESET modes)
Output	: High during count - (PRESET-STOP mode)
Maximum counting rate	: 5MHz
Max. number of counters	: 3 counters for 6-digit resolution

Fig. NL603-1 shows waveforms for a single NL603 set to 05

In FREE-RUN the counter generates a 0.5 microsecond pulse every time the display corresponds to the thumbwheel switches.

In PRESET-RESET the counter generates a 0.5 microsecond at the frequency of the input divided by 'n' - or for random signals, every 'n' input pulses - where 'n' is the number set on the thumbwheel switches.

In PRESET-STOP the counter output is at a logic high from the start of RESET until the 'n'th pulse at the input after the end of the RESET. The counter will remain in the stop position until another RESET.

If two NL603's are placed adjacent to each other the number 'n' is the 4 digit number as displayed on the thumbwheel switches.

When using more then one NL603 all connections should be made to the right-hand module and the RESET-RUN-STOP switch on the right-hand module should be used for control switches. The other counters should be set for RUN. The FREE, RUN-PRESET, STOP switches on all the counters should be set to the same required position.

Rear Connections and jumpers

The rear edge connector in the NL900 rack allows most adjacent modules to connected together without the need of front panel leads

NL603 - This module may be placed adjacent to another NL603 for automatic use as a 4-digit counter.

OUT - This module has the output signal (OUT) permanently connected to the rear connector for automatic routing to the module on the immediate right.

INPUT - There is no provision on this module for input signals to be sourced from the outputs of the module on the immediate left.

We reserve the right to alter specifications and price without prior notification.