

FREQUENCY, PULSE COUNTER, TACHOMETER, DISPLAY

DM4500F

- > Tachometer / Totalizer (8 Digits)
- > Frequency Meter
- > Pulse Counter (5 digits) + Totalizer (8 digits)
- > Suitable For Magnetic Pick Up
- > Suitable NPN / PNP Input
- > Suitable For Contact Closure
- > Suitable For Namur Sensors
- > Sensor Excitation
- > Relay, NPN/ PNP, Current / Voltage Output Options



> INTRODUCTION

The DM4500F accepts various types of pulse and frequency inputs to display Rate, Totalize, Flow, RPM and Pulse Count enabling the DM4500F to be used in a variety of applications. Output options are provided that include NPN / PNP, 2 or 4 relays, current / voltage and RS485 comms. The unit can be fully programmed from the front panel buttons or via the RS485 comms option.

When used as a frequency meter and pulse counter, 5 digit resolution is provided. The totalizer function has an 8 digit resolution displayed in 2 parts. All parameters can be entered by pressing combinations of the three sealed front panel keys through a series of menus in helpful mnemonics or via the optional communications port.

The display can be programmed to read in three different colors and two levels of brightness. Red, Green and Orange. Colors can be programmed in a variety of different ways. For example alarm, normal running or high scale.

> SPECIFICATIONS @ 68°F

INPUT SIGNAL

Frequency meter and Tachometer

Frequency Limits

MIN frequency	0.01Hz
MAX frequency without totalizer	19KHz
MAX frequency with totalizer	9.9KHz

Counter

MAX count rate (*)

Up or down without relays	20KHz
Up or down with relays	15KHz
Bi-directional Phase or Direc without relays	20KHz
Bi-directional phase or Direc with relays	15KHz
Bi-directional Indep without relays	20KHz
Bi-directional Indep with relays	15KHz

EXCITATION

8V/24VDC @ 30mA
18VDC (not stabilized) @ 100mA

CONTACT CLOSURE FILTER

Fc with duty cycle 50%	20Hz
Fc with duty cycle 30%	10Hz

INPUTS (2 CHANNELS) MAGNETIC PICKUP

Sensitivity	Vin (AC) > 60 mVpp @ F < 1kHz > 120 mVpp @ F > 1kHz
-------------	--

NAMUR

Rc	3k3 (incorporated)
Ion	< 1 mADC
Ioff	> 3 mADC

FREQUENCY, PULSE COUNTER, TACHOMETER, DISPLAY

TTL/24V DC (encoder)
Logic levels "0" < 2.4VDC, "1" > 2.6VDC

NPN or PNP
Rc 3K3 (incorporated)
Logic levels "0" < 2.4VDC, "1" > 2.6VDC

CONTACT CLOSURE
Vc 5V
Rc 3.9K
Fc (activated automatically) 20Hz

HIGH VOLTAGE INPUT (1 CHANNEL)

Voltage limits 10 to 300VAC

COUNTER IN CHRONOMETER MEMORY

Non-volatile E2PROM retains all programming data and count value when power is removed or interrupted.

DISPLAY

Type 5 programmable tri-color 14mm digits
LED's 8, control and status indication
Decimal Point programmable
Sign automatic s/configuration
Positive overflow indication *ouer*
Negative overflow indication *-ouer*
Counter display limits Process -99,999 to 99,999
Totalizer -99,999,999 to 99,999,999
Chronometer ranges 4, from 999.99s to 9,999.9h
Frequency ranges 0.01Hz to 20KHz/10KHz(totalizer)
Tachometer range 0 to 99,999(rpm), programmable (rate)

Scale factor
Counter programmable from 0.0001 to 99,999
Freq/Tach programmable from 0.0001 to 99,999

Display update rate
Counter 100ms
Chronometer 100ms
Frequency/Tachometer programmable 0.1 to 9.9s

POWER

DM4500/S1 85 to 265VAC, 100 to 300VDC
DM4500/S2 22 to 53VAC, 10.5 to 70VDC

Consumption 5W (without options), 10W max

ACCURACY

Frequency/Tachometer 0.005 %
Chronometer 0.01 %
Temperature coefficient 50 ppm/°C
Warm up time 5 minutes

AMBIENT

Indoor use
Operating temp. -10 to 60°C
Storage temperature -25 to 85°C
Relative humidity (non condensing) < 95%
Max altitude 2,000m

Relay Option

CHARACTERISTICS	OPT4500/2RLY	OPT4500/4RLY
MAX.CURRENT (RESISTIVE LOAD)	8A	5A
MAX.POWER	2,000VA / 192W	1250VA / 150W
MAX.VOLTAGE	250VAC / 150VDC	277 VAC / 125 VDC
CONTACT RESISTANCE	Max. 3mΩ	Max. 30mΩ
SWITCHING TIME	Max. 10ms	Max. 10ms

NPN / PNP Option

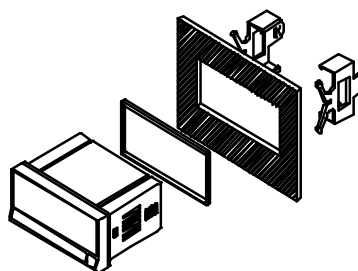
CHARACTERISTICS	
MAX VOLTAGE	50VDC
MAX CURRENT	50mA
LEAKAGE CURRENT	100μA (max.)
SWITCHING TIME	1ms (max.)

mA / V Option

CHARACTERISTICS	OPT4500/MA OUTPUT	OPT4500/V OUTPUT
RESOLUTION	13 BITS	13 BITS
ACCURACY	0.1% F.S. ±1BIT	0.1% F.S. ±1BIT
RESPONSE TIME	50ms	50ms
THERMAL DRIFT	0.5μA/°C	0.2mV/°C
MAXIMUM LOAD	<= 500Ω	>=10KΩ

➤ MECHANICAL DETAILS

Dimensions 96x48x60mm (DIN 43700)
Panel cut out 92x45mm
Weight 200g
Case material Polycarbonate (UL 94 V-0)
Sealed front panel IP65



FREQUENCY, PULSE COUNTER, TACHOMETER, DISPLAY

ORDER CODE

DM4500F	/	<input type="text"/>	/	<input type="text"/>	/	<input type="text"/>	/	<input type="text"/>
POWER SUPPLY								
85 to 265VAC (50 to 60) Hz or 100 to 300VDC		S1						
22 to 53VAC (50 to 60) Hz or 10.5 to 70VDC		S2						
ANALOG OUTPUT								
4 to 20mA		A				V		
0 to 10VDC						0		
None								
RELAYS & OPTO OUTPUT								
2 x Relays SPDT 8A		2						
4 x Relays SPST 5A		4						
4 x NPN		N						
4 x PNP		P						
None		0						
COMMUNICATION OUTPUT								
Serial 485		C						
None		0						

Example: DM4500F/S1/A/4/0 = DM4500F Frequency Display with the 85 to 265VAC (50 to 60) Hz or (100 to 300) V DC Supply, 4 to 20mA Output, 4 x Relays Output without Comms.