Predetermining Batch Counters 800 Series

Stock No.	Supply Voltage	Reset Type
260-757	24V ⎓	Manual
260-763	115V ~	Manual
260-779	240V ~	Manual
260-785	24V ⎓	Man/Elec.
260-791	115V ~	Man/Elec.
260-808	240V ~	Man/Elec.

The 800 series predetermining batch counters, manufactured by Hengstler, are available with either 'manual only' or 'manual and electrical' reset facilities. Predetermining batch counters count up to a preset value, set via pushbuttons on the front panel. On reaching this preset value, the mechanism causes single pole changeover contacts to change state. This contact arrangement is very versatile, in control circuit switching, since it can also be wired as a N/O or N/C switch. The latter arrangement is commonly used to de-energise a relay or contactor coil. Switching occurs at the end of the counting pulse, during the second stage of the number wheel movement. The contacts, when switched, remain in their changed state until the counter is reset.

Counter setting

To set the predetermining number, press and hold down the white button. Then set each digit by pressing the appropriate black buttons.

Counter resetting

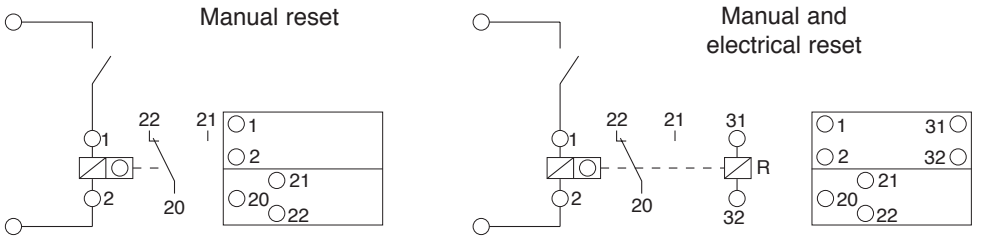
Resetting the counter returns the count display to zero. This is accomplished by either:

A. Pushbutton or manual reset. The black reset button is pressed and momentarily held-in Release slowly.

B. Electrical reset (man/elec. models only). Energise 'reset' solenoid by an electrical impulse, the 'pulse length' and 'on time' to be carefully observed (see 'Percentage Duty Cycle and Maximum 'on' Time).

During resetting , no count pulses must be received and for a 100ms duration thereafter. This is to permit time for the 'reset' solenoid to drop-out.

Figure 1. Connection dia-



Percentage duty cycle and maximum 'on' time

The maximum 'on' time and the maximum percentage duty cycle are the times during which the counter solenoids may remain energised. The longer a solenoid remains energised the more heat is generated until an 'equilibrium temperature' is reached. This temperature is a known value, depending upon the ambient (working) temperature and supply voltage being within the specified limits. Solenoids rated 100% duty cycle are able to withstand this temperature continuously, others are designed for less arduous duty, e.g. reset coils. In such cases it is necessary to know the maximum percentage duty cycle and the subsequent minimum interval. The percentage duty cycle is obtained from the pulse/interval. For any prolonged period it is calculated in accordance with the following formula.

$$\% \text{ duty cycle} = \frac{\text{Pulse time (T1)}}{\text{Total time (T1 + T2)}} \times 100$$

Where T2 is the interval time.

The maximum 'on' time is the pulse time (T1) which causes the solenoid to reach maximum temperature. This should be followed by a minimum interval time (T2) of approx. 10 x T1, in the case of the a.c. versions, and Sx T1 for the d.c. versions. This means that, if the reset solenoid of an a.c. type has been energised for the maximum 'on' time of 1 minute, it must be left de-energised for a minimum period of 10 minutes. To minimise counter heat generation, the use of short pulses are recommended (see minimum pulse length-reset solenoid).

Technical specification

	d.c. versions	**a.c. versions**
Supply tolerance	±10% 24V	±10% 115V +10% -18% 240V
Power consumption count (reset)*	2.5(12)W	2.75(16)VA
Duty factor at 25°C count (reset)	100(20)%	100(10)%
Max on time (reset)	(2) minutes	(1) minute
Pulse/pause ratio count (reset)	1:1 (1:5)	1:1 (10)
Minimum pulse length count (reset)	20(200)ms	50(200)ms
Maximum reset frequency	1 per second	1 per 2 seconds
Temperature range	-10°C to 50°C	-10°C to 50°C
Protection class	IP40	IP40

*Two sets of figures shown are for: (1) Count solenoid (2) reset solenoid the specification for 2) are in brackets. Where no brackets are shown, the information applies to the whole counter.

Accessories

A cover, manufactured from Polycarbonate, for providing environmental protection up to IP65 is available. The cover fits over the counter and is secured via the same two screws as used for the basic counter. It is sealed to the panel via a gasket supplied. The transparent door, hinged at the top, is secured by either a self-retaining rotary knob (knob version **RS** stock no. 260-814) or a cylinder lock (key version-**RS** stock no. 260-820). The latter, supplied with one key of common profile, is ideal for use where access to the front panel needs to be restricted.