

NMG2 basic settings

There are two ways of opening the menu for basic settings:

1. NMG2 switched off: set the button [1] in the **ADJUST** position, keep the **ZERO** button [5] pressed – the NMG2 will be switched on.
2. NMG2 switched on: set the button [1] in the **ADJUST** position, keep the **ZERO** button [5] pressed and set the button [1] in the position **TEST RUN**, then release the **ZERO** button [5].

Both displays show the message FUNC/END. Turn the jog wheel [9] clockwise until the display shows FUNC. Select the needed function and press the **ZERO** [5] button. The set function will be saved; then leave the display FUNC;END.

The following functions can be set:

- Basic setting of the formula parameters gr, t2, F1, F2 (Calculation of the formula see page 16 in the NMG2 manual)
- Number of measurements in automatic mode n
- Selection of the measurement type Fcod (**Bi-dir**: bidirectional standard measurement mode for measurements on presses etc.; **Uni-dir**: unidirectional measurement mode for continuous movements (e.g. conveyors, rotary tables); **Auto rES**: like Uni-dir, but the **ZERO** button [5] must be pressed for a new measurement; **ES24** for measurements on systems with emergency stop or 2-hand control using the switch NMG2-KABEL-ES24V).

While using first set up method, i.e. when NMG2 is switched off, the following parameters will also be available:

- Realtime clock: day and daytime ddt: day d, month dd, year ddd, hour tt und minute t
- Language LnCo (for printer and PC interface): 1, German, 2 English (mm), 3 English (mm and inch)
- Standstill velocity (from 1 up to 10 mm/s): Stop

Input of a Protocol ID (machine number)

In the **ADJUST** mode the user can input a freely selectable 8-digit protocol ID. This protocol ID appears in the printout and in the RS-232 transmission protocol if not zero.

Procedure

1. Press the **ZERO** [5] button in the **ADJUST** mode.
2. At one display [17,18] three LEDs light up.
3. This display can be adjusted with the jog wheel [9].
4. Press **ZERO** [5] again and hold it, now the second display can be adjusted.
5. The upper display [17] shows the first 4 characters and the lower display [18] the last 4 characters of the ID. Now the protocol ID appears in the printout.

Stop-Time Measurement

- 1. Configuration of the machine**
Press the [1] button, "ADJUST" active
- 2. Set the Stop Contact or the Acuator (Aktor)**
Button [2] released: "RELEASE" active; the safety circuit of the machine is closed and will be interrupted at the Start Position (see 8).
Button [2] pressed: "OPERATE" active; the safety circuit of the machine is open and will be closed at the Start Position (see 8).
- 3. Select the measuring direction**
Button [3] pressed: downward measurement, "DOWN" active, pulling in the measuring cable corresponds with the DOWN direction and will cause negative counting.
Button [3] released: upward measurement, "UP" active, pulling out the measuring cable corresponds with the UP direction and will cause positive counting.
- 4. Set the printer**
Button [4] pressed: "PRINT ON", printer activated; Button [4] released: printer deactivated
- 5. Set the machine to ZERO**
Arrange the machine in the upper or lower dead center and set to zero using the button [5] "ZERO".
- 6. Activate "Stop-Time measurement" mode**
Button [6] released: "STOP TIME" active
- 7. Set Single/multiple measurement**
Button [7] pressed: "Automatic measurement" mode, "MULTIPLE" active
Button [7] released: "SINGLESHOT." mode active
- 8. Select the Start Position of the measurement**
Adjust the "START POSITION" (lower display) with the jog wheel [9], this is usually the half of the whole movement.
Button [3] pressed: negative value; Button [3] released: positive value
- 9. Prepare the machine for the measurement**
Button [1] released, Mode "TEST RUN" is active, 4 bars appear on the display.
- 10. Let the machine perform the complete cycle (e.g. with the 2-hand control).**
- 11.** As soon as the moving part of the machine passes the determined stop position the stop contact will cause the stop of the machine. After the NMG2 has detected the complete standstill of the machine, it will display the parameters Stop Time and Stop Distance in the upper resp. lower display. The printout starts, if selected.

In the automatic measuring mode, any number of consecutive measurements can be carried out. The safety distance measurement will be determined only in this measuring mode.

Velocity Measurement

Steps 1 to 5: proceed as in the case of Stop-Time measuring

- 6. Activate velocity measurement**
Button [6] pressed: "VELOCITY" active
- 7. Set the parameters for the velocity measurement**
Button [8] is always released during the velocity measurement, "SINGLESHOT." active
Adjust the "START POSITION" (start of measurement) with the jog wheel [9]. The recommended value is +2 mm for upward movement and -2 mm for downward movement.
- 8. Activate the measuring mode**
Now release the button [1], "TEST RUN" is activated, 2 bars appear on the display, NMG2 is ready for the measurement.
- 9. Let the machine perform a complete cycle**
- 10. Read the measurement value**
After the machine has stopped, press and release the button ZERO [5] to obtain the measurement values. The max. velocity will be shown on the lower display "MAX. VELOCITY" [18] and the corresponding position will appear on the upper display "POSITION" [17].

The printout shows the maximum speed between the start position and the complete standstill of the machine. The actual speed in the start position also appears on the printout, so that the speed at each point of the stroke can be determined by adjusting the start position.