

**SUPERIOR ELECTRIC**

**NEDERLAND B.V.**



# **TOOL LENGTH AND DIAMETER COMPENSATION**

**for Series C MNC Model SLO-SYN<sup>®</sup> NUMERICAL CONTROLS**

- 32 TOOL LENGTH AND/OR DIAMETER COMPENSATIONS
- 99 TOOL NUMBERS
- 5-DIGIT THUMBWHEEL SWITCHES SELECT DIRECTION AND MAGNITUDE OF COMPENSATIONS
- DISPLAYS SHOW ACTIVE COMPENSATIONS
- AVAILABLE ON 3-AXIS MNC CONTROLS



ALL PRODUCTS  
ARE MANUFACTURED  
IN THE UNITED STATES  
BY THE SUPERIOR  
ELECTRIC COMPANY,  
BRISTOL, CONNECTICUT.

# TOOL LENGTH AND DIAMETER COMPENSATION for Series C MNC Model *slo-syn*® NUMERICAL CONTROLS

This option provides an MNC control with 32 sets of tool length and diameter compensations and also includes outputs for calling up to 99 different tools from tape. Compensations and tool outputs are programmed using a T address followed by a 4-digit number, the first two digits of which designate the tool output to be activated (01 through 99) and the second two digits, the compensation (01 through 32). The compensations and tool outputs will remain active until cancelled or superseded.

A tool length compensation provides a Z axis displacement which is the difference between the actual tool length and the programmed tool length. A diameter compensation provides a displacement that is always normal to the cutting path and programmed workpiece surface to correct for the difference between the actual tool diameter and the programmed dimensions.

## LENGTH AND DIAMETER COMPENSATIONS

The compensations are activated by programming the desired compensation number (01 through 32). Either a length compensation, a diameter compensation or both can be entered for each of the 32 compensation numbers. Compensations are loaded into memory by dialing the required sign and magnitude on a set of thumbwheel switches and pressing the correct LOAD push button (Length or Diameter). During operation, the active compensations will be shown on two LED displays.

Three G functions (preparatory commands) are used with diameter compensations. The G40 command will cancel the active compensations. A G41 command designates that the cutting tool is on the left side of the workpiece looking from the tool in the direction of tool travel and a G42 command designates that the tool is on the right of the workpiece. A G40, G41 or G42 command will remain active until superseded.

## TOOL OUTPUTS

This option also provides BCD outputs which can be decoded by the users interface to allow selection of up to 99 different tools from tape. Tool numbers (01 through 99) are programmed as the first two digits of the 4-digit number that follows a T address. A programmed tool number will remain active until canceled or superseded by another tool number.



**MNC MODEL SLO-SYN® NUMERICAL CONTROLS** ARE TWO-AXIS AND THREE-AXIS CONTOURING controls for milling machines, cutting and welding machines and other production equipment requiring high speed contouring capabilities. MNC controls have linear and circular interpolation over the entire feed range and are hard-wired at the factory to accept plug-in addition of the optional computer interface. Other standard features are tape control of feedrate and keyboard manual data input. Available options include ASCII tape codes, position display, 4mm lead screw control, QUILTROL Actuator interface and independent third axis.

### Subsidiaries and Field Offices

**SUPERIOR ELECTRIC ENGINEERING SERVICES B.V.**  
Aylmer House  
Linkway, The High  
Harlow, Essex, England  
Telephone: Harlow 20971  
Telex: 81581 Supelec Harlow  
Cable: SUPELEC Harlow

**SUPERIOR ELECTRIC GMBH**  
Bernerstrasse 18  
6000 Frankfurt/Main  
Nieder Eschbach, Germany  
Telephone: (0611) 502067/502068  
Telex: 413423 Super D  
Cable: SUPELEC

Switzerland Sales Representative  
Rudolf F. Loeple  
Industrie Vertretungen  
Postfach 177  
CH-8700 Kusnacht, Switzerland  
Telephone: (01) 90-50-06

Italy Sales Representative  
**Contatori Industriali e Speciali s.r.l.**  
Via L. Signorelli 14  
20145 Milan, Italy  
Tel: (02) 31 34 91  
Telex: 32250 PP MI (Contatori)

The right to make engineering refinements on all products is reserved. Dimensions and other details are subject to change. When dimensions are critical, detailed drawings should be obtained from the factory.

Via G. Collegno 49  
10138 Torino, Italy  
Tel: (011) 77 48 75



**SUPERIOR ELECTRIC  
NEDERLAND B.V.**

Koperwerf 33  
The Hague, Netherlands  
Tel: (070) 679590 Telex: 31436 Super nl  
Cable Address: SUPELEC