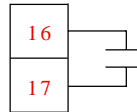


## SCL/SCM TERMINALES DEL VARIADOR

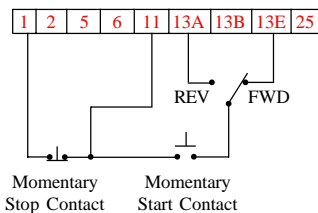
PARAR	1
SEÑAL COMUN	2
0-10 VDC ENTRADA DE POTENCIOMETRO	3
ENTRADA PODER POTENC.	6
REFERENCIA ENTRADA DIGITAL	11
TB-13A FUNCION SELECCIONADA	13A
TB-13B FUNCION SELECCIONADA	13B
TB-13E FUNCION SELECCIONADA	13E
ENTRADA 4-20 mA CONTROL VELOCIDAD	25

PROGRAMABLE TRANSMISION EXTERNA



Aqui se muestran dos ejemplos de diagramas de conecion de control de adelante y retroceso. Uno muestra un control e 3 cables Partir/Parar usando contactores momentarios, y el otro muestra el control de dos cables manteniendo lo contactores. Los para metros requeridos tambien estan incluidos

### 3 CABLES PARTIDA/PARADA

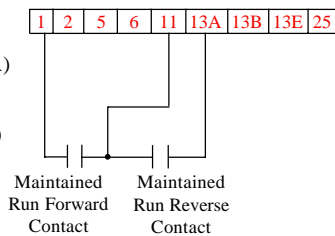


Set Parametro 10 (TB-13A) para Partir Reversa (07).

Set Parametro 12 (TB-13E) para Patir Adelante (06).

Set Parametro 17 (Rotacion) para Adelante y Reversa (02).

### 2-CABLE PARTIDA/PARADA



Set ParametRO 10 (TB-13A) para partir en Reversa (06).

Set Parametro 17 (Rotacion) para Adelante y Reversa (02).

## DIAGNOSTICOS Y DISPLAY DE MENSAJES

DISPLAY	DESCRIPCION
<i>Codigos Referenciales de Velocidad</i>	
CP	<b>CONTROL PAD:</b> The drive speed is controlled by the ▲ and ▼ buttons on the front of the drive.
EI	<b>EXTERNAL CURRENT:</b> The drive speed is controlled by a 4-20 mA signal between TB-25 and TB-2.
EU	<b>EXTERNAL VOLTAGE:</b> The drive speed is controlled by a 0-10 VDC signal between TB-5 and TB-2.
JG	<b>JOG:</b> The drive is in Jog mode and the speed is set by preset speed #2 (Parameter 32).
OP	<b>MOP:</b> Contacts wired to TB-13B and 13C are used to increase and decrease the drive speed.
Pr1 - Pr7	<b>PRESET SPEEDS #1-7:</b> The drive speed is set by the selected Preset Speed (Parameters 31-37).
<i>Indicacion de Estado</i>	
br	<b>DC BRAKING:</b> The DC braking circuit is activated.
CL	<b>CURRENT LIMIT:</b> The output current has exceeded the CURRENT LIMIT setting (Parameter 25) and the drive is reducing the output frequency to reduce the output current. If the drive remains in CURRENT LIMIT for too long, it can trip into a CURRENT OVERLOAD fault (PF).
Er	<b>ERROR:</b> Invalid data has been entered.
GE	"GE" will be displayed if an attempt is made to change the OEM default settings when the drive is operating in the OEM mode (see Parameter 48).
LC	<b>FAULT LOCKOUT:</b> Failed three restart attempts. Requires a manual reset.
SE	<b>SERIAL:</b> The optional remote keypad is active as the user interface instead of the buttons on the front of the drive.
SP	<b>START PENDING:</b> This is displayed during the 15 second interval between restart attempts.
<i>Codigos de Diagnosticos</i>	
AF	<b>HIGH TEMPERATURE FAULT:</b> Ambient temperature is too high.
CF	<b>CONTROL FAULT:</b> A blank EPM, or EPM with corrupted data has been installed. Perform a factory reset (Parameter 48).
cF	<b>INCOMPATIBILITY FAULT:</b> An EPM with a different parameter version has been installed.
dF	<b>DYNAMIC BRAKING FAULT:</b> The drive has sensed the dynamic braking resistors are overheating.
EF	<b>EXTERNAL FAULT:</b> TB-13A and/or TB13C is set as an external fault input and TB-13A and/or TB-13C is open with respect to TB-2.
GF	<b>DATA FAULT:</b> User data and OEM defaults in the EPM are corrupted.
HF	<b>HIGH DC BUS VOLTAGE FAULT:</b> Line voltage is too high; Deceleration rate is too fast; Overhauling load. Fast deceleration and overhauling loads may require dynamic braking.
JF	<b>REMOTE KEYPAD FAULT:</b> The communication link between the drive and the optional Remote Keypad has been lost. Check for proper wiring and/or noise.
LF	<b>LOW DC BUS VOLTAGE FAULT:</b> Line voltage is too low.
OF	<b>OUTPUT TRANSISTOR FAULT:</b> Phase to phase or phase to ground short circuit on the output; Failed output transistor; Boost settings are too high; Acceleration rate is too fast.
PF	<b>CURRENT OVERLOAD FAULT:</b> VFD is undersized for the application; Mechanical problem with the driven equipment.
SF	<b>SINGLE-PHASE FAULT:</b> Single-phase input power has been applied to a three-phase drive.
UF	<b>START FAULT:</b> Start command was present when the drive was powered up. Must wait 2 seconds after power-up to apply Start command if START METHOD is set to NORMAL.
F1	<b>EPM FAULT:</b> The EPM is missing or damaged.
FC, F2-Fo	<b>INTERNAL FAULTS:</b> The control board has sensed a problem. Consult factory.

# AC Tech

a member of the **Lenze Group**

Variable Speed AC Motor Drives



## SCL/SCM Series Guia de Referencia Rapida

Esta guia tiene la intencion de ayudar a configurar los variadores Modelo Serie SCL y SCM.

**NOTA:** Antes de Instalar y Operar el Variador SCL y SCM, Por favor familiaricese con el Manual de Instalacion y Operacion de los Variadores Modelo SCL y SCM.

[www.benoit.cl](http://www.benoit.cl)

Casilla 2012 Concepcion  
Fono 41-947039 Fax 41-796784  
variadores@benoit.cl

## CONFIGURACION DEL VARIADOR MODELO SCL/SCM

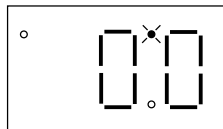
### Modo de Entrada del Programa :

Para acceder a los parametros, aprete el boton **Mode** . Este activara la clave secreta. El display leera "00" y a la derecha los decimales

. Use los botones **▲** y **▼** para llegar a la clave secreta

(La clave secreta de fabrica es 225) y aprete **Mode** para entrar.

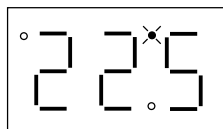
Apriete **Mode**



Display lee "00"

A la derecha los puntos decimales

Use **▲** y **▼** para llegar a la clave secreta (la clave de fabrica es 225)

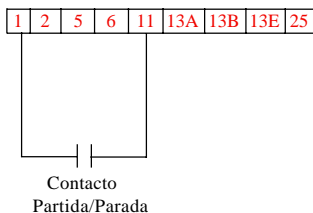


Apriete **Mode** para entrar la clave

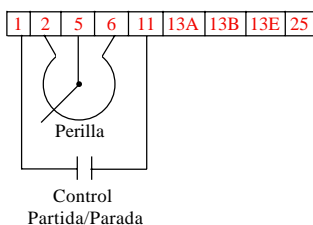
Entoces el PROGRAMA es accesado, use los botones **▲** y **▼** para ver los diferentes parametros (P01), y apriete el boton **Mode** para ver los diferentes opciones. Use los botones **▲** y **▼** para cambiar el parametro elegido y apriete el boton **Mode** para almacenar el nuevo programa

### Conexiones:

Abajo hay un ejemplo diagrama para control de partida y parada (start/stop) El variador esta listo para su uso, con esta conecion de control no se necesita ajustar ningun parametro para funcionar. La variacion de se hace a traves de los botones **▲** y **▼** que estan al frente del variador.



Para agregar un **Potentiometro para control de velocidad**, Cambie el parametro # 5 (Standard Speed Source) to 0-10 VDC (03).



## SCL/SCM MENU DE PARAMETROS

No.	Parametros	Rangos of Adjustes	Factory Default
01	Line Voltage	High (01), Low (02)	High (01)
02	Carrier Frequency	4 kHz (01), 6 kHz (02), 8 kHz (03), 10 kHz (04)	6 kHz (02)
03	Start Method	Normal (01), Start on Power-up (02), Start w/DC Brake (03), Auto Restart w/DC Brake (04), Flying Restart 1 (05), Flying Restart 2 (06), Flying Restart 3 (07)	Normal (01)
04	Stop Method	Coast (01), Coast with DC Brake (02), Ramp (03), Ramp with DC Brake (04)	Coast (01)
05	Speed Source	Keypad (01), Preset #1 (02), 0-10 VDC (03), 4-20 mA (04)	Keypad (01)
06	Relay Output	None (01), Run (02), Fault (03), Inverse Fault (04), Fault Lockout (05), At Set Speed (06), Above Preset #3 (07), Current Limit (08), Auto Speed (09), Reverse (10)	None (01)
10	TB-13A Select	None (01), 0-10 VDC (02), 4-20 mA (03), Preset Speed #1 (04), Start Forward (05), Run Reverse (06), Start Reverse (07), External Fault (08), Inverse External Fault (09), Auxiliary Stop (10), Accel/Decel #2 (11)	None (01)
11	TB-13B Select	None (01), 0-10 VDC (02), 4-20 mA (03), Preset Speed #2 (04), Decrease Freq (05), Start Forward (06), Jog Forward (07), Jog Reverse (08), External Fault (09), Inverse External Fault (10), Auxiliary Stop (11), Accel/Decel #2 (12), Remote Keypad (13)	None (01)
12	TB-13E Select	None (01), 0-10 VDC (02), 4-20 mA (03), Preset Speed #3 (04), Increase Freq (05), Start Forward (06), External Fault (07), Inverse External Fault (08), Auxiliary Stop (09), Accel/Decel #2 (10), Run (11), Fault (12), Inverse Fault (13), Fault Lockout (14), At Set Speed (15), Above Preset #3 (16), Current Limit (17), Auto Speed (18), Reverse (19), Dynamic Braking (20), Remote Keypad (21)	None (01)
14	Control	Terminal Strip Only (01), Remote Keypad Only (02)	Terminal Strip (01)
16	Units Editing	Tenths of Units (01), Whole Units (02)	Whole Units (02)

No.	Parametros	Rangos de Ajuste	Factory Default
17	Rotation	Forward Only (01), Forward and Reverse (02)	Forward Only (01)
19	Acceleration Time	0.1 - 3600.0 sec	20.0 sec
20	Deceleration Time	0.1 - 3600.0 sec	20.0 sec
21	DC Brake Time	0.0 - 3600.0 sec	0.0 sec
22	DC Brake Voltage	0.0 - 30.0%	0.0%
23	Minimum Frequency	0.0 - Maximum Frequency	0.0 Hz
24	Maximum Frequency	Minimum Frequency - 240.0 Hz	SCL = 50.0 Hz SCM = 60.0 Hz
25	Current Limit	30 - 180%	180%
26	Motor Overload	30 - 100%	100%
27	Base Frequency	25.0 - 500.0 Hz	SCL = 50.0 Hz SCM = 60.0 Hz
28	Fixed Boost	0.0 - 30.0%	1.0%
29	Accel Boost	0.0 - 20.0%	0.0%
30	Slip Compensation	0.0 - 5.0%	0.0%
31-37	Preset Speeds	0.0 - Maximum Frequency	0.0 Hz
38	Skip Bandwidth	0.0 - 10.0 Hz	0.0 Hz
39	Speed Scaling	0.0 - 6500.0	0.0
42	Accel / Decel #2	0.1 - 3600.0 sec	20.0 sec
43	Serial Address	1 - 247	1
44	Password	000 - 999	225
45	Spd at Min Signal	Minimum Frequency - 999 Hz	0.0 Hz
46	Spd at Max Signal	Minimum Frequency - 999 Hz	SCL = 50.0 Hz SCM = 60.0 Hz
47	Clear History	Maintain (01), Clear (02)	Maintain (01)
48	Program Selection	User Settings (01), OEM Settings (02), Reset OEM (03), Reset 60 (04), Reset 50 (05), Translate (06)	User Settings (01)
50	Fault History	View Only	(N/A)
51	Software Code	View Only	(N/A)
52	DC Bus Voltage	View Only	(N/A)
53	Motor Voltage	View Only	(N/A)
54	Load	View Only	(N/A)
55	0-10 VDC Input	View Only	(N/A)
56	4-20 mA Input	View Only	(N/A)
57	TB Strip Status	View Only	(N/A)
58	Keypad Status	View Only	(N/A)