

Specifications

MODELS

Code	Power Supply	Max. Out Current
SW1D2142	24 ÷ 40 Vdc	4.2 Arms
SW1D3142	24 ÷ 80 Vdc	4.2 Arms
SW1D4080	48 ÷ 140 Vdc	8.0 Arms
SW1A4085	17 ÷ 100 Vac	8.5 Arms
SW1A4185	17 ÷ 100 Vac	8.5 Arms
SW1A9x60	115 ÷ 230 Vac	6.0 Arms

POWER STAGE

40 KHz bipolar chopper H bridges

OPTOISOLATED CONTROL BUSES

RS232 / RS422 / RS485 / CANbus / Profibus / EtherCAT

INPUTS / OUTPUTS

4 or 16 optoisolated digital inputs / 2 or 10 optoisolated outputs

2 analog inputs (potentiometer or ±10Vdc)

0 or 2 analog outputs

12 dips switch for node ID and user's settings

STEP RESOLUTION

from 1 to 128 microstep

SAFETY PROTECTIONS

Over/UnderVoltage, OverCurrent, OverTemperature, Open Winding, Winding Phase/Phase/Phase/Ground Short

TEMPERATURE

operating from 0°C to 50°C, storage 0°C to 55°C

UMIDITY

0% ÷ 90%

PROTECTION CLASS

IP20

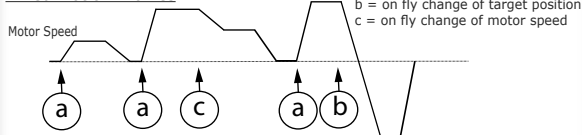
Powerful Motion Module

- Step & Direction Control Mode
- **Analog Speed Ref.** Control Mode (by potentiometer or ±10Vdc)
- Velocity Control Mode
- Wide range of Positioning Control Modes (homing, relative, absolute, target)
- **CAM Mode:** advanced cam profile can be programmed (c1x90 versions)
- **Electric Gear** with programmable gear ratio to track external master reference (from fieldbus or incremental encoder) of motor Speed and Position
- High speed I/O triggered motor start & stop to event synchronizing for fast response demanding application: labelling, nick_finder, on fly cut., etc ...
- Multi Axis movements synchronization capability
- On fly change among any Motion Module Control Modes
- On fly Electric Gear Enable/Disable capability
- **Motor Stall detection** & Target Position tracking through encoder feedback

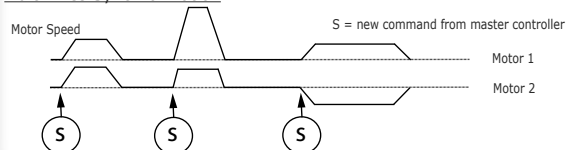
Homing Motion Profiles



Mixed Motion Profiles



Multi Axes Synchronization



Full Digital Programmable 2 Phase Step Motor Drives

Provide Advanced & Powerful Low Cost Motion Control



SW1

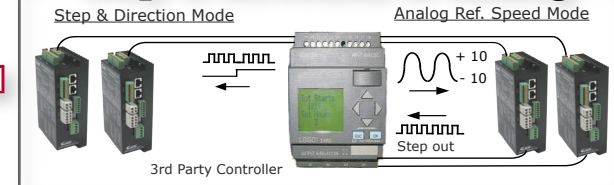
SlimLine Drives

- Multifunction Control Modes
- On Board Safety provisions:
 - ✓ fully tested for direct installation unit
 - ✓ built in watch dog functionality
 - ✓ fault monitoring and handling
 - ✓ separated power supply for logic and power
 - ✓ on field working errors buffering
- Drives main features:
 - ✓ low motor vibration ✓ compact sizes
 - ✓ low mech. noise ✓ low heat generation
 - ✓ no resonance ✓ high reliability
 - ✓ safe protections ✓ high speed and torque output
 - ✓ DC/AC power supply ✓ wide range of power



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Step & Direction or Analog

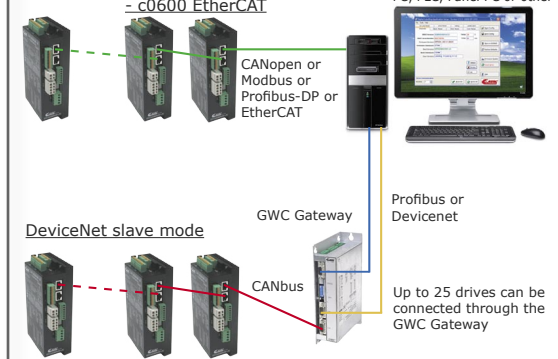


Multi Axes Systems

Slave Mode - c0300 CANopen/c0380 CANopen DS402

- c0400 Modbus
- c0500 Profibus-DP
- c0600 EtherCAT

Master Controller:
PC, PLC, Panel PC or other



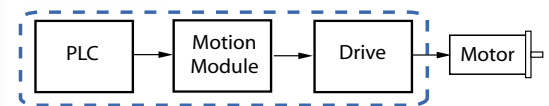
Drive control through commands by Master Controller. Suitable for multi axes systems (up to 127 drives). Built in powerful Motion Module functionality assures perfect synchronization among axes and reduces Master Controller workload.

Stand Alone Mode

User Programmable - eePLC - c0490

eePLC integrates PLC, Motion Module, Process Module and drive in One Device. eePLC Studio PC interface is available to friendly, fast and easy custom to machine or process device programming.

Traditional Solution



eePLC Solution



Atomic Handler permits user to access all the functionalities and resources of the device and to manage and synchronize the motion module and other drive resources to any process' events.

Access to all Powerful Motion functionalities

Built in **Process Real Time Modules** for special applications:

- Labelling
- CAM (c1390 and c 1490)
- Wire Processing
- User Custom Process
-

eePLC Modularity and Use

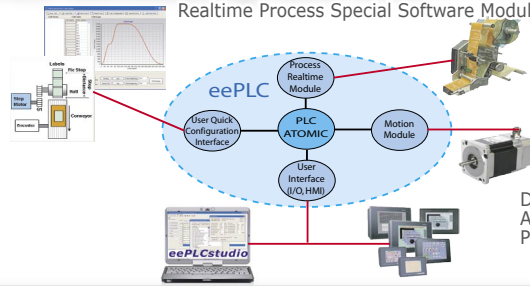
Special Quick Configuration Windows for Process Realtime Modules.

Accepts parameter setting from optional controller through serial RS232, RS422, RS485 in Modbus RTU protocol (HMI, PLC, PC, other).

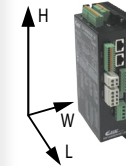
Ever co. proprietary PC Software Tools for easy and quick development, configuration and supervision of each system.

PC Software Tools available:

SL_Modbus for Modbus Slave Mode
SL_CAN for CANopen Slave Mode
SL_eePLC for Stand Alone Mode



Mechanical Data



Model	Dimensions (mm)	Dimensions (mm)			Weight (g.)
		H	L	W	
SW1D2142 61-00	142.0	74.0	37.0	500	
SW1D3142 61-00	142.0	74.0	37.0	500	
SW1D4080 61-00	165.0	97.5	54.3	680	
SW1D4080N3B1-00	165.0	97.5	62.3	750	
SW1A4085 61-00	165.0	108.0	49.0	800	
SW1A4185 61-00	165.0	108.0	49.0	800	
SW1A9x60 1-00	235.0	151.5	62.5	1,400	

Ordering Information of SW1 Drives and Options

Order Code		Power			System Resources					Control mode	
Version	Config.	Power Supply	Logic Supply	Current	Digital Inputs	Digital Outputs	Analog Inputs	Analog Outputs	Interface	Mode	Software Starter Kit (PC Cable + Software CD-Rom)
SW1 Drives Line: Modelli 2142											
SW1D2142C061-00	c0300	24 ÷ 40 Vdc	24 ÷ 40 Vdc	0 ÷ 4.2 Arms (0÷6.0 Apeak)	4	2	2	0	CANbus Canopen	CANopen Mode	SW1_CANBUS-SL or SW1_CAN01-SL
	c0380									CANopen DS402 Mode	SW1_CANBUS-SL or SW1_CAN01-SL
	c0390									eePLC	SW1_CANBUS-EE or SW1_CAN01-EE
	c1390									eePLC + Cam	SW1_CANBUS-EE or SW1_CAN01-EE
SW1D2142N361-00	c0400	24 ÷ 40 Vdc	24 ÷ 40 Vdc	0 ÷ 4.2 Arms (0÷6.0 Apeak)	4	2	2	0	RS232/422/485 Modbus	Modbus Mode	SW1_RS232U-SL or SW1_RS485-SL
	c0490									eePLC	SW1_RS232U-EE or SW1_RS485-EE
	c1490									eePLC + Cam	SW1_RS232U-EE or SW1_RS485-EE
	c2490									eePLC + Cam + Labelling	SW1_RS232U-EE or SW1_RS485-EE
SW1 Drives Line: Modelli 3142											
SW1D3142C061-10	c0300	24 ÷ 80 Vdc	24 ÷ 40 Vdc	0 ÷ 4.2 Arms (0÷6.0 Apeak)	4	2	2	0	CANbus Canopen	CANopen Mode	SW1_CANBUS-SL or SW1_CAN01-SL
	c0380									CANopen DS402 Mode	SW1_CANBUS-SL or SW1_CAN01-SL
	c0390									eePLC	SW1_CANBUS-EE or SW1_CAN01-EE
	c1390									eePLC + Cam	SW1_CANBUS-EE or SW1_CAN01-EE
SW1D3142N361-10	c0400	24 ÷ 80 Vdc	24 ÷ 40 Vdc	0 ÷ 4.2 Arms (0÷6.0 Apeak)	4	2	2	0	RS232/422/485 Modbus	Modbus Mode	SW1_RS232U-SL or SW1_RS485-SL
	c0490									eePLC	SW1_RS232U-EE or SW1_RS485-EE
	c1490									eePLC + Cam	SW1_RS232U-EE or SW1_RS485-EE
	c2490									eePLC + Cam + Labelling	SW1_RS232U-EE or SW1_RS485-EE
SW1 Drives Line: Modelli 4080											
SW1D4080C061-00	c0300	48 ÷ 140 Vdc	24 ÷ 140 Vdc	0 ÷ 8.0 Arms (0÷11.0 Apeak)	4	2	2	0	CANbus Canopen	CANopen Mode	SW1_CANBUS-SL or SW1_CAN01-SL
	c0380									CANopen DS402 Mode	SW1_CANBUS-SL or SW1_CAN01-SL
	c0390									eePLC	SW1_CANBUS-EE or SW1_CAN01-EE
	c1390									eePLC + Cam	SW1_CANBUS-EE or SW1_CAN01-EE
SW1D4080N361-00	c0400	48 ÷ 140 Vdc	24 ÷ 140 Vdc	0 ÷ 8.0 Arms (0÷11.0 Apeak)	4	2	2	0	RS232/422/485 Modbus	Modbus Mode	SW1_RS232U-SL or SW1_RS485-SL
	c0490									eePLC	SW1_RS232U-EE or SW1_RS485-EE
	c1490									eePLC + Cam	SW1_RS232U-EE or SW1_RS485-EE
	c2490									eePLC + Cam + Labelling	SW1_RS232U-EE or SW1_RS485-EE
SW1D4080N3B1-00	c0400	48 ÷ 140 Vdc	24 ÷ 140 Vdc	0 ÷ 8.0 Arms (0÷11.0 Apeak)	16	10	2	0	RS232/422/485 Modbus	Modbus Mode	SW1_RS232U-EE or SW1_RS485-EE
	c0490									eePLC	SW1_RS232U-EE or SW1_RS485-EE
	c1490									eePLC + Cam	SW1_RS232U-EE or SW1_RS485-EE
	c2490									eePLC + Cam + Labelling	SW1_RS232U-EE or SW1_RS485-EE
SW1A4080C0B1-00	c0300	34 ÷ 100 Vac	17 ÷ 100 Vac	0 ÷ 8.0 Arms (0÷11.0 Apeak)	16	10	2	0	CANbus Canopen	CANopen Mode	SW1_CANBUS-SL or SW1_CAN01-SL
	c0380									CANopen DS402 Mode	SW1_CANBUS-SL or SW1_CAN01-SL
	c0390									eePLC	SW1_CANBUS-EE or SW1_CAN01-EE
	c1390									eePLC + Cam	SW1_CANBUS-EE or SW1_CAN01-EE
SW1A4080N3B1-00	c0400	34 ÷ 100 Vac	17 ÷ 100 Vac	0 ÷ 8.0 Arms (0÷11.0 Apeak)	16	10	2	0	RS232/422/485 Modbus	Modbus Mode	SW1_RS232U-SL or SW1_RS485-SL
	c0490									eePLC	SW1_RS232U-EE or SW1_RS485-EE
	c1490									eePLC + Cam	SW1_RS232U-EE or SW1_RS485-EE
	c2490									eePLC + Cam + Labelling	SW1_RS232U-EE or SW1_RS485-EE

Software

Specifications

Ordering Information of SW1 Drives and Options

Order Code		Power			System Resources					Control mode				
Version	Config.	Power Supply	Logic Supply	Current	Digital Inputs	Digital Outputs	Analog Inputs	Analog Outputs	Interface	Mode	Software Starter Kit (PC Cable + Software CD-Rom)			
SW1 Drives Line: Modelli 4085														
SW1A4085C061-00	c0300	17 ÷ 100 Vac	24 Vdc	0 ÷ 8.5 Arms (0÷12.0 Apeak)	4	2	2	0	CANbus Canopen	CANopen Mode	SW1_CANBUS-SL or SW1_CAN01-SL			
	c0380									CANopen DS402 Mode	SW1_CANBUS-SL or SW1_CAN01-SL			
	c0390									eePLC	SW1_CANBUS-EE or SW1_CAN01-EE			
	c1390									eePLC + Cam	SW1_CANBUS-EE or SW1_CAN01-EE			
SW1A4085N361-00	c0400	17 ÷ 100 Vac	24 Vdc	0 ÷ 8.5 Arms (0÷12.0 Apeak)	4	2	2	0	RS232/422/485 Modbus	Modbus Mode	SW1_RS232U-SL or SW1_RS485-SL			
	c0490									eePLC	SW1_RS232U-EE or SW1_RS485-EE			
	c1490									eePLC + Cam	SW1_RS232U-EE or SW1_RS485-EE			
	c2490									eePLC + Cam + Labelling				
SW1 Drives Line: Modelli 4185														
SW1A4185F161-00	c0500	17 ÷ 100 Vac	24 Vdc	0 ÷ 8.5 Arms (0÷12.0 Apeak)	4	2	2	0	Profibus Profibus-DP Seriale RS232	Profibus-DP Mode	SW1_RS232U-SL or SW1_RS485-SL			
	c0591									Profibus-DP + eePLC				
SW1A4185H161-00	c0680	17 ÷ 100 Vac	24 Vdc	0 ÷ 8.5 Arms (0÷12.0 Apeak)	4	2	2	0	Ethernet EtherCAT Seriale RS232 - Canbus	EtherCAT Mode	SW1_RS232U-SL or SW1_RS485-SL			
SW1 Drives Line: Modelli 9060														
SW1A9060C061-00	c0300	Singola 115 ÷ 230 Vac unica per Logica e Potenza		0 ÷ 6.0 Arms (0÷8.46 Apeak)	4	2		0	CANbus Canopen	CANopen Mode	SW1_CANBUS-SL or SW1_CAN01-SL			
	c0380									CANopen DS402 Mode	SW1_CANBUS-SL or SW1_CAN01-SL			
	c0390									eePLC	SW1_CANBUS-EE or SW1_CAN01-EE			
	c1390									eePLC + Cam	SW1_CANBUS-EE or SW1_CAN01-EE			
SW1A9060N361-00	c0400							4	2	2	0	RS232/422/485 Modbus	Modbus Mode	SW1_RS232U-SL or SW1_RS485-SL
	c0490												eePLC	SW1_RS232U-EE or SW1_RS485-EE
	c1490												eePLC + Cam	SW1_RS232U-EE or SW1_RS485-EE
	c2490												eePLC + Cam + Labelling	SW1_RS232U-EE or SW1_RS485-EE
SW1A9060N3C1-00	c0400							16	10		2		Modbus Mode	SW1_RS232U-SL or SW1_RS485-SL
	c0490												eePLC	SW1_RS232U-EE or SW1_RS485-EE
	c1490												eePLC + Cam	SW1_RS232U-EE or SW1_RS485-EE
	c2490												eePLC + Cam + Labelling	SW1_RS232U-EE or SW1_RS485-EE
SW1 Drives Line: Modelli 9160														
SW1A9160C061-00	c0300	115 ÷ 230 Vac	115 ÷ 230 Vac	0 ÷ 6.0 Arms (0÷8.46 Apeak)	4	2		0	CANbus Canopen	CANopen Mode	SW1_CANBUS-SL or SW1_CAN01-SL			
	c0380									CANopen DS402 Mode	SW1_CANBUS-SL or SW1_CAN01-SL			
	c0390									eePLC	SW1_CANBUS-EE or SW1_CAN01-EE			
	c1390									eePLC + Cam	SW1_CANBUS-EE or SW1_CAN01-EE			
SW1A9160C0C1-00	c0300							16	10		2		CANopen Mode	SW1_CANBUS-SL or SW1_CAN01-SL
	c0390												eePLC	SW1_CANBUS-EE or SW1_CAN01-EE
	c1390												eePLC + Cam	SW1_CANBUS-EE or SW1_CAN01-EE
SW1A9160N361-00	c0400							4	2		0	RS232/422/485 Modbus	Modbus Mode	SW1_RS232U-SL or SW1_RS485-SL
	c0490												eePLC	SW1_RS232U-EE or SW1_RS485-EE
	c1490												eePLC + Cam	SW1_RS232U-EE or SW1_RS485-EE
	c2490												eePLC + Cam + Labelling	SW1_RS232U-EE or SW1_RS485-EE
SW1A9160N3C1-00	c0400				16	10		2		Modbus Mode	SW1_CANBUS-SL or SW1_CAN01-SL			
	c0490									eePLC	SW1_RS232U-EE or SW1_RS485-EE			
	c1490									eePLC + Cam	SW1_RS232U-EE or SW1_RS485-EE			
	c2490									eePLC + Cam + Labelling	SW1_RS232U-EE or SW1_RS485-EE			

Specifications