EV3 700 series

Timing modules for basic ovens

EN ENGLISH

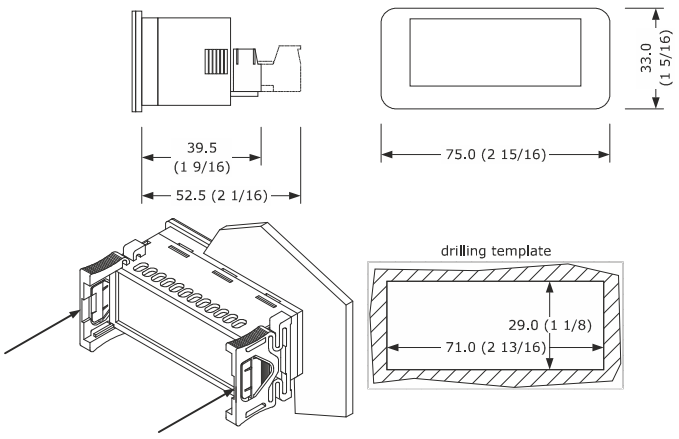
- user interface with push encoder or touch keys (according to the model)
- 230 VAC or 12 VAC/DC power supply (according to the model)
- 2 multi-purpose inputs
- relay output, 5 A res. @ 250 VAC
- alarm buzzer
- operation with programming key

N.B.
- the push encoder is not provided
- for models with a push encoder user interface, it is mandatory
- models with a touch key user interface also operate with push encoder.

Purchasing code	User interface	Power supply	Output
EV3701D2	push encoder	12 VAC/DC	relay, 5 A res.
EV3701D7	push encoder	230 VAC	relay, 5 A res.
EV3711D2	touch keys	12 VAC/DC	relay, 5 A res.
EV3711D7	touch keys	230 VAC	relay, 5 A res.

1 MEASUREMENTS AND INSTALLATION

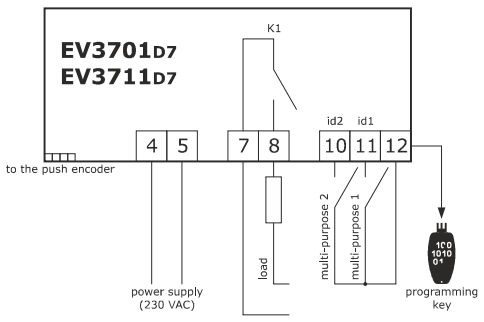
Measurements in mm (in); 39.5 (1 9/16) depth with fixed screw terminal blocks, 52.5 (2 1/16) depth with plug-in screw terminal blocks.
To be fitted to a panel, snap-in brackets provided.

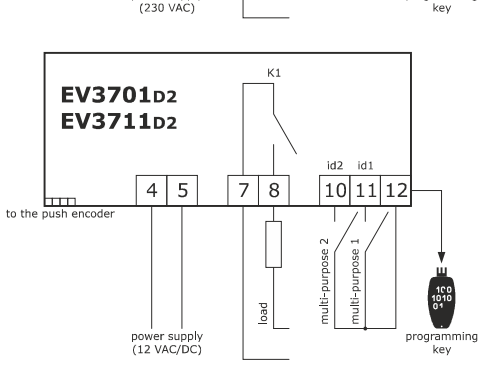


INSTALLATION PRECAUTIONS
- the thickness of the panel must be between 0.8 and 2.0 mm (1/32 and 1/16 in);
- ensure that the working conditions are within the limits stated in the *TECHNICAL SPECIFICATIONS* section;
- do not install the device close to heat sources, equipment with a strong magnetic field, in places subject to direct sunlight, rain, damp, excessive dust, mechanical vibrations or shocks;
- in compliance with safety regulations, the device must be installed properly to ensure adequate protection from contact with electrical parts. All protective parts must be fixed in such a way as to need the aid of a tool to remove them.

2 ELECTRICAL CONNECTION

N.B.
- use cables of an adequate section for the current running through them.
- to reduce any electromagnetic interference locate the power cables as far away as possible from the signal cables.





PRECAUTIONS FOR ELECTRICAL CONNECTION
- if using an electrical or pneumatic screwdriver, adjust the tightening torque;
- if the device is moved from a cold to a warm place, humidity may cause condensation to form inside. Wait for about an hour before switching on the power;
- make sure that the supply voltage, electrical frequency and power are within the set limits. See the section *TECHNICAL SPECIFICATIONS*;
- disconnect the power supply before carrying out any type of maintenance;
- do not use the device as a safety device;
- for repairs and for further information, contact the EVCO sales network.

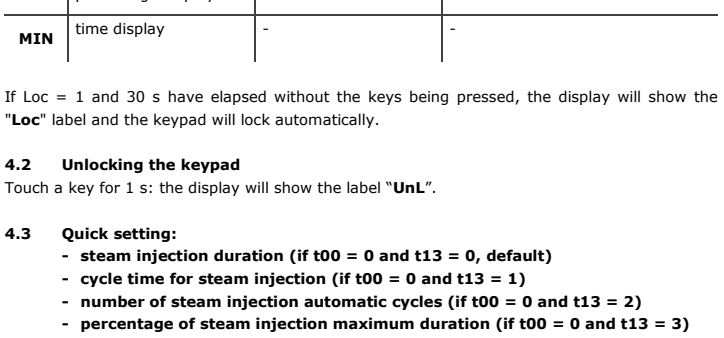
3 FIRST-TIME USE

1. Carry out the installation following the instructions given in the section *MEASUREMENTS AND INSTALLATION*.
2. Power up the device as set out in the section *ELECTRICAL CONNECTION*: an internal test will start up.
   The test normally takes a few seconds; when it is finished the display will switch off.
3. Configure the device as shown in the section *Setting configuration parameters*.
   Recommended configuration parameters for first-time use:

PAR.	DEF.	PARAMETER	MIN... MAX.
t00	**1**	type of timer	0 = steam injection timer 1 = cooking timer
t02	**1**	timing	0 = s (seconds) 1 = min (minutes)
t13	**0**	quick setting value - steam injection timer mode	0 = injection duration 1 = cycle time 2 = number of automatic cycles 3 = maximum duration percentage

4. Disconnect the device from the mains.
5. Make the electrical connection as shown in the section *ELECTRICAL CONNECTION* without powering up the device.
6. If necessary, connect the push encoder.
7. Power up the device.

4 USER INTERFACE AND MAIN FUNCTIONS



4.1 Switching the device on/off

To switch on push encoder models:

1.	push	Press the encoder.

To switch off push encoder models:

1.	push	Press the encoder for 2 s.

To switch on touch key models:

1.	ON/STAND-BY	Touch the ON/STAND-BY key.

To switch off touch key models:

1.	ON/STAND-BY	Touch the ON/STAND-BY key for 2 s.

If the device is switched on, the display will show the t09 value ("time count-down" default); if the display shows an alarm code, see the section ALARMS.

LED	ON	OFF	FLASHING
OUT1	relay active	-	quick setting in progress
⚠	alarm active	-	-
OUT2	unused	-	-
SEC	time display	-	-
⏻	device switched off	device switched on	device being switched off
°C/°F	unused	-	-
%	percentage display	-	-
MIN	time display	-	-

If Loc = 1 and 30 s have elapsed without the keys being pressed, the display will show the "**Loc**" label and the keypad will lock automatically.

4.2 Unlocking the keypad

Touch a key for 1 s: the display will show the label "**UnL**".

4.3 Quick setting:

- **steam injection duration (if t00 = 0 and t13 = 0, default)**
- **cycle time for steam injection (if t00 = 0 and t13 = 1)**
- **number of steam injection automatic cycles (if t00 = 0 and t13 = 2)**
- **percentage of steam injection maximum duration (if t00 = 0 and t13 = 3)**
- **cooking timer duration (if t00 = 1)**

For push encoder models

1.	push	Rotate the encoder.
2.	push	Rotate the encoder within 15 s to set the value within the limits t03 and t04.
3.	push	Press the encoder.
4.		Take no action for 15 seconds to exit the procedure in advance: the device will not save the entered value.

For touch key models:
- check that the keypad is not locked.

1.	SET	Touch the SET key.
2.	FNC	Touch the UP or DOWN keys within 15s to set the value within the limits t03 and t04.
3.	SET	Touch the SET key.
4.	ON/STAND-BY	Touch the ON/STANDBY key (or take no action for 15 s) to exit the procedure in advance: the device will not save the entered value.

4.4 Stopping the timer:

- **steam injection timer (if t00 = 0, default)**
- **cooking timer (if t00 = 1)**

For push encoder models:

1.	push	Press the encoder for 2 s.

To switch off touch key models:

1.	ON/STAND-BY	Touch the ON/STAND-BY key for 2 s.

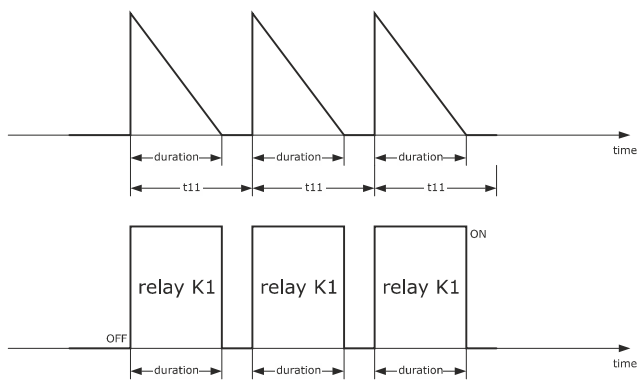
4.5 Silencing the buzzer

For push encoder models:
- rotate or press the encoder.

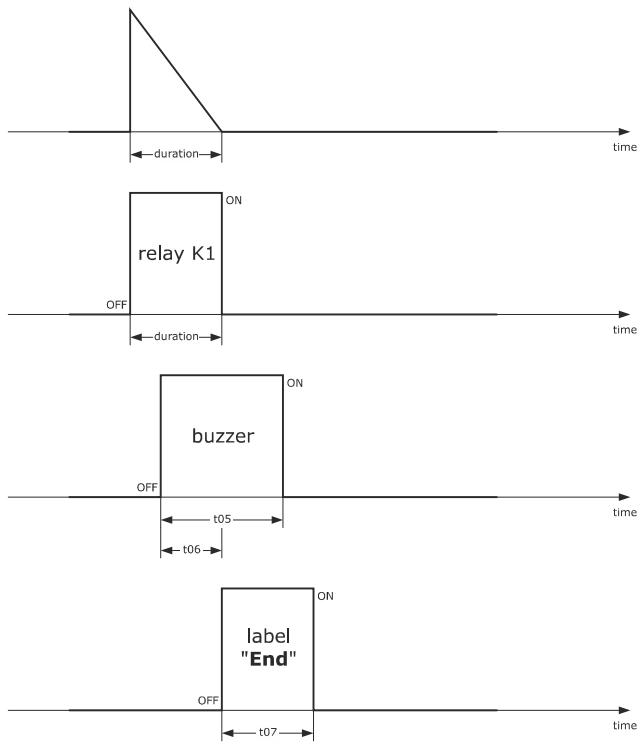
For touch key models:
- touch a key.

5 FUNCTION MODES

Steam injection timer mode (t00 = 0) with 3 automatic cycles (t12 = 3).



Cooking timer mode (t00 = 1).



6 SETTINGS

6.1 Setting configuration parameters

For push encoder models:
- make sure that the timer is not in progress.

1.	push	Press the encoder for 4 s: the display will show the label "**PA**".
2.	push	Press the encoder.
3.	push	Rotate the encoder within 15 s to set the PAS value (default "**-19**").
4.	push	Press the encoder (or take no action for 15 s): the display will show the label "**t00**".
5.	push	Rotate the encoder to select a parameter.
6.	push	Press the encoder.
7.	push	Rotate the encoder within 15 s to set the value.
8.	push	Press the encoder (or take no action for 15 s).
9.	push	Press the encoder for 4 s (or take no action for 60 s) to exit the procedure.

For touch key models:
- make sure that the timer is not in progress.

1.	SET	Touch the SET key for 4 s: the display will show the label "**PA**".
2.	SET	Touch the SET key.
3.	FNC	Touch the UP or DOWN key within 15s to set the PAS value (default "**-19**").
4.	SET	Touch the SET key (or take no action for 15s): the display will show the label "**t00**".
5.	FNC	Touch the UP or DOWN key to select a parameter.
6.	SET	Touch the SET key.
7.	FNC	Touch the UP or DOWN key within 15s to set the value.
8.	SET	Touch the SET key (or take no action for 15s).
9.	SET	Touch the SET key for 4s (or take no action for 60s) to exit the procedure.

6.2 Restoring factory settings (default) and saving customised settings

N.B.
- Check that the factory settings are appropriate; see the section *CONFIGURATION PARAMETERS*.
- Saving customised settings overwrites the factory settings.

For push encoder models:
- make sure that the timer is not in progress.

1.	push	Press the encoder for 4 s: the display will show the label "**PA**".
2.	push	Press the encoder.
3.	push	Rotate the encoder within 15 s to set the value.
	VAL. / DESCRIPTION	
	149	value for restoring the factory information (default)
	161	value for saving customised settings
4.	push	Press the encoder (or take no action for 15 s): the display will show the label "**dEF**" (for setting the "**149**" value) or the label "**MAP**" (for setting the "**161**" value).
5.	push	Press the encoder.
6.	push	Rotate the encoder within 15 s to set the value "**4**".
7.	push	Press the encoder (or take no action for 15 s): the display will show "**- - -**" flashing for 4 s, after which the device will exit the procedure.
8.	Disconnect the device from the power supply.	

9.	push	Press the encoder for 2s before action 6 to exit the procedure beforehand.

For touch key models:
- make sure that the timer is not in progress.

1.	SET	Touch the SET key for 4 s: the display will show the label "**PA**".
2.	SET	Touch the SET key.
3.	FNC ∧ ∨	Touch the UP or DOWN key within 15s to set the value.

VAL.	DESCRIPTION
149	value for restoring the factory information (default)
161	value for saving customised settings

4.	SET	Touch the SET key (or take no action for 15 s): the display will show the label "**dEF**" (for setting the "**149**" value) or the label "**MAP**" (for setting the "**161**" value).
5.	SET	Touch the SET key.
6.	FNC ∧ ∨	Touch the UP or DOWN key within 15s to set "**4**".
7.	SET	Touch the SET key (or take no action for 15 s): the display will show "- - -" flashing for 4 s, after which the device will exit the procedure.
8.	Disconnect the device from the power supply.	
9.	SET	Touch the SET key for 2s before action 6 to exit the procedure beforehand.

7 CONFIGURATION PARAMETERS

No.	PAR.	DEF.	GENERAL SETTINGS	MIN... MAX.
1	t00	**1**	type of timer	0 = steam injection timer 1 = cooking timer
2	t01	**1**	timer start-up with confirmation of time setting	0 = no 1 = yes
3	t02	**1**	timing	0 = s (seconds) 1 = min (minutes)
4	t03	**InF**	minimum time with quick setting	Inf... 999 s/min Inf = continuous
5	t04	**999**	maximum time with quick setting	Inf... 999 s/min Inf = continuous
6	t05	**5**	buzzer duration from when the cooking timer stops	Inf... 999 s Inf = continuous
7	t06	**0**	buzzer anticipation from when the cooking timer stops	0... 999 s
8	t07	**10**	duration of "**End**" label flashing from when the cooking timer stops	0... 999 s
9	t08	**1**	enable "**OUT1**" LED for relay status	0 = no 1 = yes
10	t09	**0**	value displayed	0 = time count-down 1 = time set
No.	PAR.	DEF.	STEAM INJECTION	MIN... MAX.
11	t10	**30**	injection maximum duration	1... 999 s/min
12	t11	**60**	steam injection cycle time	1... 999 s/min
13	t12	**InF**	number of steam injection automatic cycles	Inf... 999 Inf = continuous
14	t13	**0**	quick setting value - steam injection timer mode	0 = injection duration 1 = cycle time 2 = number of automatic cycles 3 = maximum duration percentage
No.	PAR.	DEF.	DIGITAL INPUTS	MIN... MAX.
15	i0	**4**	multi-purpose input function 1	0 = disabled 1 = timer start-up/stop button 2 = timer start-up/stop switch 3 = iA alarm + relay off + timer stopped 4 = timer stop/restart switch with relay active 5 = timer stop/restart switch with relay inactive 6 = steam injection button
16	i1	**0**	multi-purpose input activation 1	0 = with contact closed 1 = with contact open
17	i2	**0**	multi-purpose input function 2	0 = disabled 1 = timer start-up/stop button 2 = timer start-up/stop switch 3 = iA alarm + relay off + timer stopped 4 = timer stop/restart switch with relay active 5 = timer stop/restart switch with relay inactive 6 = steam injection button
18	i3	**0**	multi-purpose input activation 2	0 = with contact closed 1 = with contact open
No.	PAR.	DEF.	SECURITY	MIN... MAX.
19	Loc	**1**	enable keypad lock	0 = no 1 = yes not available for EV3701
20	PAS	**-19**	password	-99... 999 do not set "**149**" or "**161**"
21	nS1	**- - -**	display of relay start-ups in thousands	0... 999 start-ups x 1,000

8 ALARMS

CODE	DESCRIPTION	RESET	TO CORRECT
iA	multi-purpose input alarm	manual	check i0, i1, i2 and i3

9 TECHNICAL SPECIFICATIONS

Purpose of the control device	function controller	
Construction of the control device	built-in electronic device	
Container	black, self-extinguishing.	
Category of heat and fire resistance	D.	
Measurements		
75.0 x 33.0 x 39.5 mm (2 15/16 x 1 5/16 x 1 9/16 in) with fixed screw terminal blocks	75.0 x 33.0 x 52.5 mm (2 15/16 x 1 5/16 x2 15/16 in) with plug-in screw terminal blocks	
Mounting methods for the control device	to be fitted to a panel, snap-in brackets provided	
Degree of protection provided by the covering	IP65 (front)	
Connection method		
fixed screw terminal blocks for wires up to 2.5 mm²	plug-in screw terminal blocks for wires up to 2.5 mm² (on request)	JST connector.
Maximum permitted length for connection cables		
power supply: 10 m (32.8 ft)	digital inputs: 10 m (32.8 ft)	
digital outputs: 10 m (32.8 ft).		
Operating temperature:	from 0 to 60 °C (from 32 to 140 °F).	
Storage temperature	from -25 to 70 °C (from -13 to 158 °F).	
Operating humidity	relative humidity without condensate from 10 to 90%	
Pollution status of the control device	2.	

Compliance:			
RoHS 2011/65/EC	WEEE 2012/19/EU	REACH (EC) Regulation no. 1907/2006	
EMC 2014/30/EU	LVD 2014/35/EU		
Power supply:			
230 VAC (+10 % -15 %), 50/60 Hz (±3 Hz), max. 2 VA in EV3... D7			
12 VAC/DC (+10% -15%), 50/60 Hz (±3 Hz), max. 5 VA/3W in EV3... D2.			
Earthing methods for the control device	none		
Rated impulse-withstand voltage	4 KV		
Over-voltage category	III.		
Software class and structure	A.		
Digital inputs	2 dry contact (multi-purpose).		
Dry contact	Contact type:	5 VDC, 1.5 mA	
	Power supply:	none	
	Protection:	none.	
Digital outputs	1 with electro-mechanical relay (K1).		
K1 relay	SPST, 5 A res. @ 250 VAC		
Type 1 or Type 2 Actions	Type 1		
Additional features of Type 1 or Type 2 actions	C.		
Displays	LED display, 3 digit, with function icons		
Alarm buzzer	Built-in		
Communications ports	1 port for push encoder.		

N.B.
The device must be disposed of according to local regulations governing the collection of electrical and electronic equipment.

EVCO S.p.A.
Via Feltre 81, 32036 Sedico (BL) ITALY
Tel. 0437/8422 | **Fax** 0437/83648
email info@evco.it | **web** www.evco.it