

8. Specifications

Device Type	: AC/DC Ammeter
Housing & Mounting	: 76mm x 34.5mm x 71mm plastic housing for panel mounting. Panel cut-out is 71x29mm.
Protection Class	: NEMA 4X(IP65 at front, IP20 at rear).
Weight	: Approximately 0.20 Kg.
Environmental Ratings	: Standard, indoor at an altitude of less than 2000 meters with none condensing humidity.
Storage / Operating Temperature	: -30 °C to +80 °C / -20 °C to +70 °C
Storage / Operating Humidity	: 90 % max. (None condensing)
Installation	: Fixed installation
Overvoltage Category	: II.
Pollution Degree	: II, office or workplace, none conductive pollution
Operating Conditions	: Continuous
Supply Voltage and Power	: 230V~ (±%15) 50/60Hz - 1.5VA, 115V~ (±%15) 50/60Hz - 1.5VA, 24V~ (±%15) 50/60Hz - 1.5VA, 10...30V= 1.5W 100...240V~ (%15;+%10) 50/60Hz
Sampling Cycle	: According to parameter value
Accuracy	: ±%1
Scale	: AC and RMS 0 - 9999 DC (-1999) - 9999
Input impedance	: 20mΩ 1K2Ω
Control Form	: ON / OFF
Relay Outputs	: 8A@250V~ for Resistive load (Alarm output) (Electrical life : 100.000 switching at full load)
Display	: 14 mm Red 4 digits LED Display
LED	: AC(Red), DC(Red), Alarm (Red), Program(Green)
Approvals	: ENEC, CE

9. Ordering Information

EDA-3700 (77x35 DIN Size)		A	B	C	D	E	/	F	G	H	I	U	V	W	Z
		09					/	00	00			0	0	0	0
A Supply Voltage															
1	100...240V~ (%15;+%10) 50/60Hz														
3	24V~ (±%15) 50/60Hz - 1.5VA														
4	115V~ (±%15) 50/60Hz - 1.5VA														
5	230V~ (±%15) 50/60Hz - 1.5VA														
8	10 - 30 V =														
D Communication															
0	None														
1	RS485														
E Alarm Output															
0	None														
1	Relay Output 8A@250V~ at resistive load ,NO+NC)														

All order information of EDA-3700 AC/DC Ammeter are given on the table at left. User may form appropriate device configuration from information and codes that at the table and convert it to the ordering codes. Firstly, supply voltage then other specifications must be determined. Please fill the order code blanks according to your needs. Please contact us, if your needs are out of the standards.

Before commissioning the device, parameters must be set in accordance with desired use. Incomplete or incorrect configurations can cause dangerous situations.

⚠	~ Vac
⚠	== Vdc
⚠	~ Vdc or Vac can be applied

EMKO Your Technology Partner
Thank you very much for your preference to use Emko Elektronik products, please visit our web page to download detailed user manual. www.emkoelektronik.com.tr

EMKO

AC / DC Ammeter

EDA-3700 77x35 DIN SIZE



EDA-3700 x 35 DIN Size Programmable AC / DC Ammeter

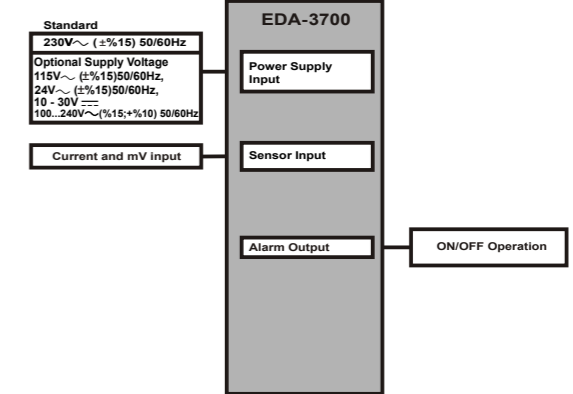
- 4 digits display
- Easily changeable from front panel
- 5A or 60 mV AC, DC, AC/DC input
- Programmable scale from 5A to 9999A
- Alarm parameters
- Password protection for programming mode
- Remote access, data collecting and controlling with Modbus RTU
- AC, DC or True RMS measuring feature
- Having CE mark according to European Norms

Instruction Manual. ENG EDA-3700 01 V01 04/18

1. Environmental Ratings

- Operating Temperature** : 0 to 50 °C
- Max. Operating Humidity** : %90 Rh (Yoğunlaşma olmaksızın)
- Altitude** : Up to 2000 m.
- Forbidden Conditions:**
Corrosive atmosphere
Explosive atmosphere
Homeapplications (The unit is only for industrial applications)

1.1 General Specifications



1.2 Installation

A visual inspection of this product for possible damage occurred during shipment is recommended before installation. It is your responsibility to ensure that qualified mechanical and electrical technicians install this product.

If there is danger of serious accident resulting from a failure or defect in this unit, power off the system and separate the electrical connection of the device from the system.

The unit is normally supplied without a power supply switch or a fuse. Use power switch and fuse as required.

Be sure to use the rated power supply voltage to protect the unit against damage and to prevent failure.

Keep the power off until all of the wiring is completed so that electric shock and trouble with the unit can be prevented.

Never attempt to disassemble, modify or repair this unit. Tampering with the unit may result in malfunction, electric shock or fire.

Do not use the unit in combustible or explosive gaseous atmospheres. During putting equipment in hole on the metal panel while mechanical installation some metal burrs can cause injury on hands, you must be careful.

Montage of the product on a system must be done with its fixing clamps. Do not do the montage of the device with inappropriate fixing clamp. Be sure that device will not fall while doing the montage.

It is your responsibility if this equipment is used in a manner not specified in this instruction manual.

1.3 Warranty

EMKO Elektronik warrants that the equipment delivered is free from defects in material and workmanship. This warranty is provided for a period of two years. The warranty period starts from the delivery date. This warranty is in force if duty and responsibilities which are determined in warranty document and instruction manual performs by the customer completely.

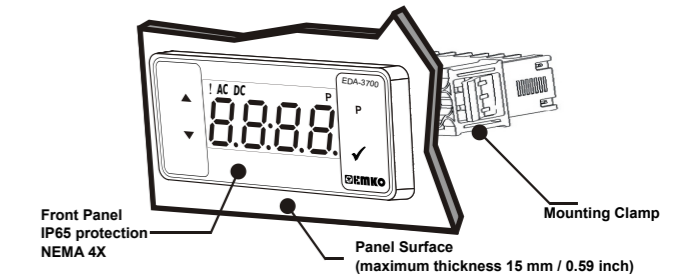
1.4 Maintenance

Repairs should only be performed by trained and specialized personnel. Cut power to the device before accessing internal parts. Do not clean the case with hydrocarbon-based solvents (Petrol, Trichlorethylene etc.). Use of these solvents can reduce the mechanical reliability of the device. Use a cloth dampened in ethyl alcohol or water to clean the external plastic case.

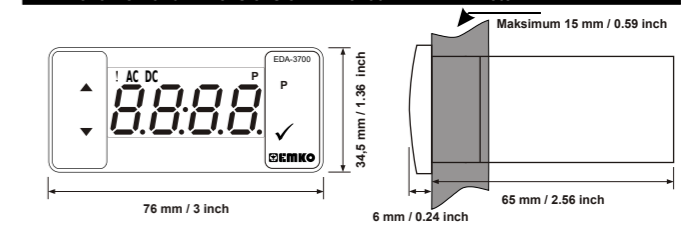
1.5 Manufacturer Company

Manufacturer Company Name:
Emko Elektronik A.S. DOSAB Karanfil Sk.No:6 16369 BURSA/TURKEY
Phone:+90 224 261 19 00
Fax :+90 224 261 19 12
Repair and maintenance service information:
Emko Elektronik Sanayi ve Ticaret A.Ş.
Demirtaş Organize Sanayi Bölgesi Karanfil Sk.No:6 16369 BURSA/TURKEY
Phone:+90 224 261 19 00
Fax :+90 224 261 19 12

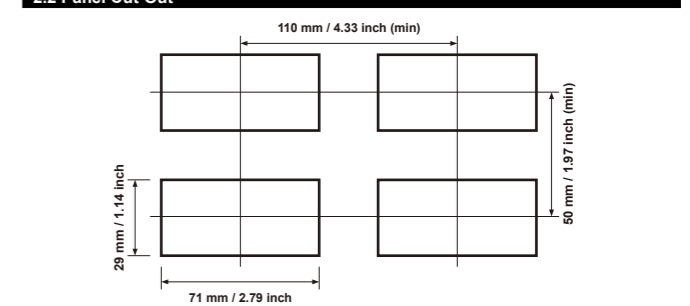
2. General Description



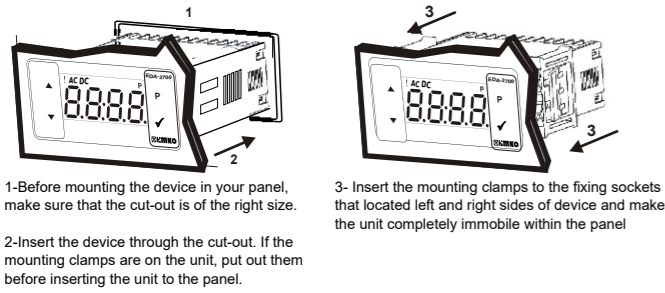
2.1 Front View and Dimensions of EDA-3700 AC/DC Ammeter



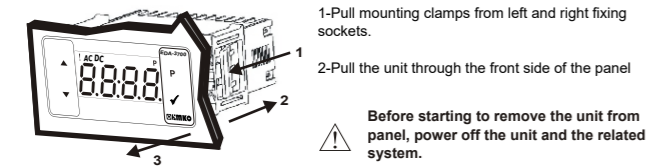
2.2 Panel Cut-Out



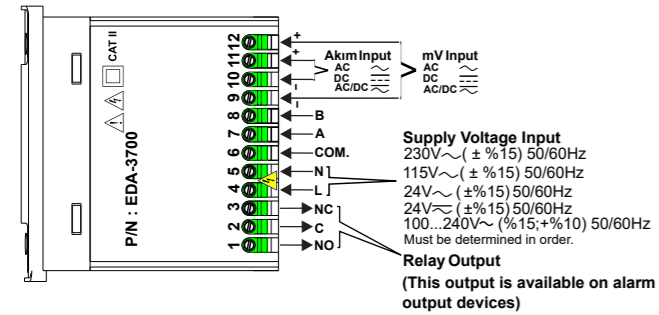
2.3 Panel Mounting



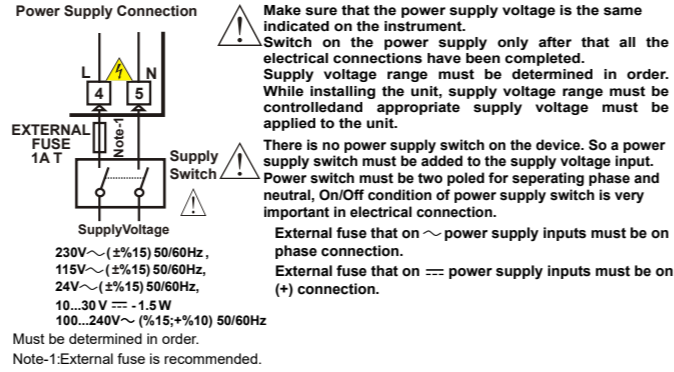
2.4 Removing from the Panel



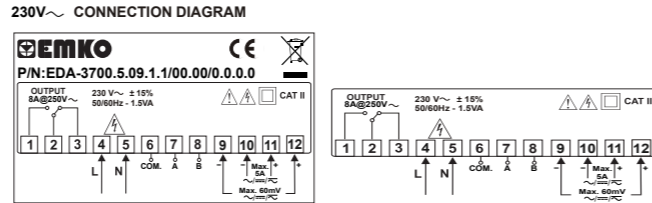
3. Electrical Wiring Diagram



3.1 Supply Voltage Input Connection of the Device



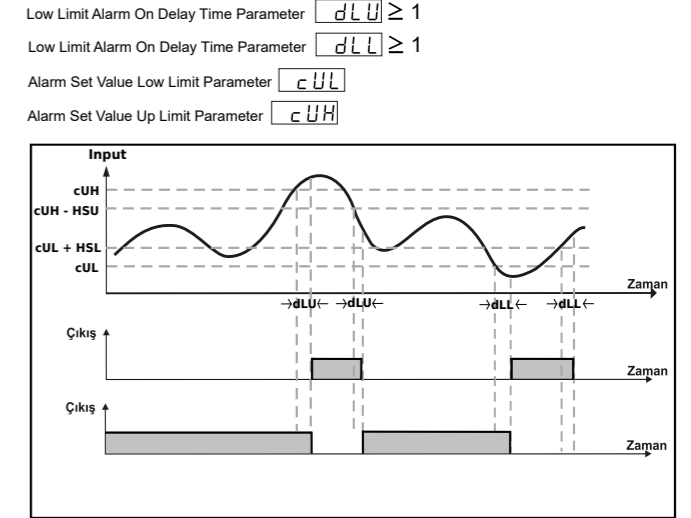
3.2 Device Label and Connection Diagram



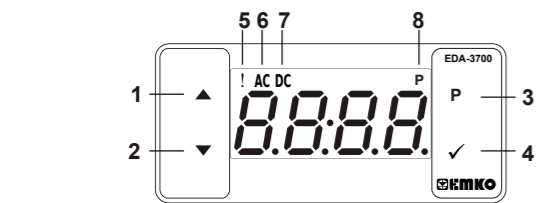
5.1 Operations Graphics of EDA-3700 AC/DC Ammetre

	AC/DC(rms)	AC	DC
	$A \frac{1}{\sqrt{3}}$	$A \frac{1}{\sqrt{3}}$	0.000
	A	A	0.000
	$A \frac{1}{\sqrt{2}}$	$A \frac{1}{2}$	$A \frac{1}{2}$
	$A \sqrt{\frac{d}{T}}$	$A \sqrt{\frac{d}{T} \frac{d'}{T}}$	$A \frac{d}{T}$
	$A \frac{1}{\sqrt{2}}$	$A \frac{1}{\sqrt{2}}$	0.000
	$A \frac{1}{\sqrt{2}}$	0.308A	$A \frac{2}{\pi}$
	$A \frac{1}{2}$	0.386A	$A \frac{1}{\pi}$

5.2 EDA-3700 AC/DC Ampermetro Cihazı Alarm Çalışma Grafikleri



4. Front Panel Definition and Accessing to the Menus



BUTTON DEFINITIONS

- Increment Button :**
** It is used to increase the value in the Programming mode.
- Decrement Button :**
** It is used to decrease the value in the Programming mode.
- Program Button:**
** To access the programming screen; in the main operation screen, press this button for 5 seconds.
- Enter Button:**
It is used to saving value in the programming screen.

LED DEFINITIONS

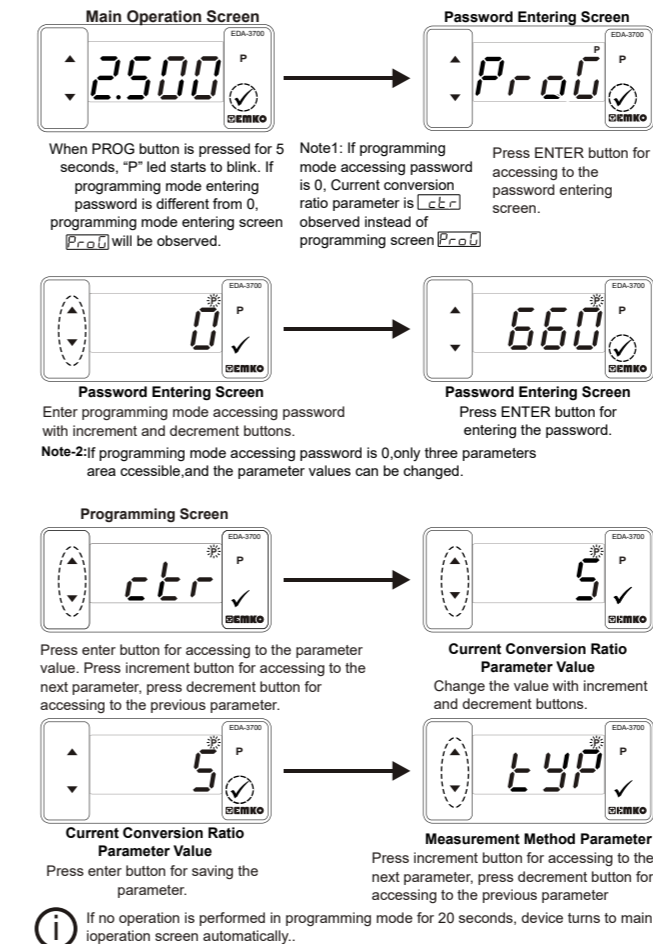
- Alarm Output Led :**
** The led is active when the alarm relay is active.
- AC Measurement Led :**
** The led is active when the measurement method AC is selected.
- DC Measurement Led:**
** The led is active when the measurement method DC is selected.
** If AC / DC is selected, AC and DC will be active at the same time.
- Program led:**
** Blinks in programming mode .

5. Programming Mode Parameter List

- ctr** Current conversion ratio parameter (Default = 5)
It can be set from 5 to 9999. If this parameter is changed, these parameters (**cUH**, **cUL**, **H5U**, **H5L**) must be updated again.
- tYP** Measurement Metod Parameter (Default = AC/DC)
Can be set to AC, DC, AC/DC.
- AC** Measurement method is AC.
dc Measurement method is DC.
ACdc Measurement method is AC/DC.

- Pnt** Decimal Point Position Parameter (Default = 0.000)
Decimal Point Position is determined by this parameter. It can be adjusted from 0 to 3.
- SPL** Sampling Time Parameter (Default = 4)
Sampling time is set with this parameter. It can be adjusted from 0 to 3.
- cUH** Up Limit Alarm Set Parameter (Default = 5.000)
It can be adjusted between minimum and maximum scale that is specified with **ctr** parameter. This parameter can't be lower than **cUL** + **H5U** + **H5L**
- H5U** Up Limit Alarm Hysteresis Parameter (Default = 0.100)
It can be adjusted from 0 to **ctr** / 5.
This parameter can not be greater than **cUH** - **cUL** - **H5L**
- dLU** Up Limit Alarm On Delay Time Parameter (Default = 0)
It can be adjusted from 0 to 999.
- cUL** Low Limit Alarm Set Parameter (Default = 0.000)
It can be adjusted between lower scale and upper scale that is specified with **ctr** parameter. This parameter can't be higher than **cUH** - **H5U** - **H5L**
- H5L** Low Limit Alarm Hysteresis Parameter (Default = 0.100)
It can be adjusted from 0 to **ctr** / 5.
This parameter can not be greater than **cUH** - **cUL** - **H5U**
- dLL** Low Limit Alarm On Delay Time Parameter (Default = 0)
It can set from 0 to 999 seconds.
- SdL** Up Limit Alarm Delay Parameter After Power On
It can set from 0 to 999 seconds.
- SrD** Slave ID Parameter
Device communication address parameter (1 to 247).
- bUr** Baudrate Parameter (Default = 3)
Device communication speed parameter. It can be adjusted from 0 to 4.
0:1200 bps, 1:2400 bps, 2:4800 bps, 3:9600 bps, 4:19200 bps
- PRs** Programming SectionAccessing Password (Default = 0)
It is used for accessing to the programming section. It can be adjusted from 0 to 9999. If it is selected 0, password will not be asked.

5.3 Entering to the Programming Mode, Changing and Saving Parameters



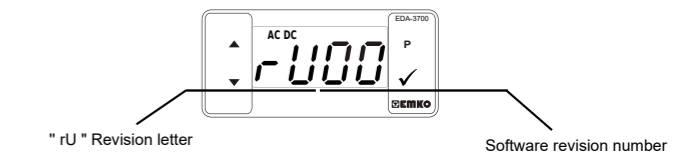
6. Modbus Address Table of EDA-3770 Devices

ADDRESS	PARAMETER
40001	Reserve
40002	Current conversion ratio parameter
40003	Measurement Metod Parameter
40004	Decimal Point Position Parameter
40005	Sampling Time Parameter
40006	Up Limit Alarm Set Parameter
40007	Up Limit Alarm Hysteresis Parameter
40008	Up Limit Alarm On Delay Time Parameter
40009	Low Limit Alarm Set Parameter
40010	Low Limit Alarm Hysteresis Parameter
40011	Low Limit Alarm On Delay Time Parameter
40012	Up Limit Alarm Delay Parameter After Power On
40013	Slave ID Parameter
40014	Baudrate Parameter
40015	Programming SectionAccessing Password

ADDRESS	PARAMETER
30001	Measured Current Value
30002	Alarm Relay Output Status

7. Monitoring of Software Revision of EDA-3700 Devices

When the AC / DC ammeter is energized, firstly the revision number of the software is displayed to the user.



7.1 Error Messages on EDA-3700 AC / DC Ammetre

