 Read this document carefully before using this device. The guarantee will be expired by damaging of the device if you don't attend to the directions in the user manual. Also we don't accept any compensations for personal injury, material damage or capital disadvantages.

ENDA EI7412 PROGRAMMABLE INDICATOR WITH RELAY

Thank you for choosing ENDA EI7412 INDICATOR.

- * 72x72mm sized.
- * 4 digits display.
- * On-off control.
- * Relays for Out and Alarm control.
- * Up and low limits of Set values can be configured.
- * Decimal point can be adjusted between 1. and 3. digits.
- * Display scale can be adjusted between -1999 and 4000.
- * Measurement unit can be displayed.
- * Selectable four different standart input types (0-20mA, 4-20mA, 0-1V, 0-10V).
- * User can calibrate the device according to his/her own specified input type.
- * Sampling time can be adjusted in four steps.
- * Selectable control option below and above the set value.
- * Selectable independent, deviation or band alarms.
- * Maximum and minimum values are registered and can be hold on the display.
- * Current and voltage calibration can be made.
- * Selectable parameter access protection.
- * CE marked according to European Norms.





Order code : EI7412- -
1 2


- | | |
|--|--|
| <p>1 - Supply Voltage
 230VAC...230V AC
 24VAC.....24V AC
 SM.....9-30V DC / 7-24V AC</p> | <p>2 - Auxiliary Supply OUT
 AS24.....24V DC 50mA
 AS12.....12V DC 50mA
 AS08.....8V DC 50mA
 AS05.....5V DC 50mA
 None.....No auxiliary supply out</p> |
|--|--|



TECHNICAL SPECIFICATIONS


ENVIRONMENTAL CONDITIONS	
Ambient/storage temperature	0 ... +50°C/-25 ... +70°C (with no icing)
Max. relative humidity	80% up to 31°C decreasing linearly 50% at 40°C.
Rated pollution degree	According to EN 60529 Front panel : IP65 Rear panel : IP20
Height	Max. 2000m
 Do not use the device in locations subject to corrosive and flammable gases.	

ELECTRICAL CHARACTERISTICS	
Supply	230VAC +10%/-20%, 50/60Hz, 24VAC±10%,50/60Hz or 24Vac/dc (9-30Vdc or 7-24Vac)
Power consumption	Max. 7VA
Wiring	2.5mm ² screw-terminal connections
Date retention	EEPROM (Min. 10 years)
EMC	EN 61326-1: 1997, A1: 1998, A2: 2001 (Performance criterion B for the EMC standard)
Safety requirements	EN 61010-1: 2001 (pollution degree 2, overvoltage category II, measurement category I)  EI7412 must not be used in location where measurement category is II, III or IV.

Input type	Measurement range		Measurement accuracy	Input empedance
	Min.	Max.		
0-1V DC voltage	0V	1.1V	±0,5% (of full scale)	Approx. 11kΩ (terminal voltage limits: min. = -2V, max. = 30V)
0-10V DC voltage	0V	14V	±0,5% (of full scale)	Approx. 11kΩ (terminal voltage limits: min. = -2V, max. = 30V)
0-20mA DC current	0mA	25mA	±0,5% (of full scale)	Approx. 5Ω (applicable terminal voltage is max. 50mA.)
4-20mA DC current	0mA	25mA	±0,5% (of full scale)	Approx. 5Ω (applicable terminal voltage is max. 50mA.)
 In the current measurement mode input impedance is 5Ω. Therefore, in the current measurement mode, any voltage input should not be connected to the input terminals. Otherwise, the device will be broken down. To change the input type from voltage to a current measurement mode while the device is operating, first, leave out the voltage inputs. Then, change input type to one of the current measurement modes.				

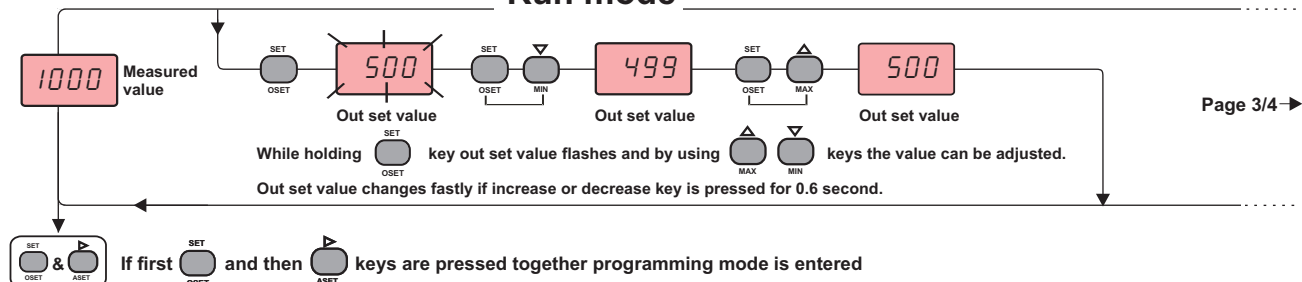
OUTPUTS	
Auxiliary power supply	All auxiliary power supplies supply maximum 50mA (Regulated and isolated)
Out	Relay: 250V AC, 8A (for resistive load), NO; 1/2 HP 240V AC CosΦ = 0.4 (for inductive load)
Alarm	Relay: 250V AC, 8A (for resistive load), NO; 1/2 HP 240V AC CosΦ = 0.4 (for inductive load)
Life expectancy for relay	Mechanical 30.000.000 operation; 100.000 operation at 250V AC, 8A resistive load.

CONTROL	
Control type	Single set-point and alarm control
Control algorithm	On-Off control
Hysteresis	Adjustable between 1 ... 200

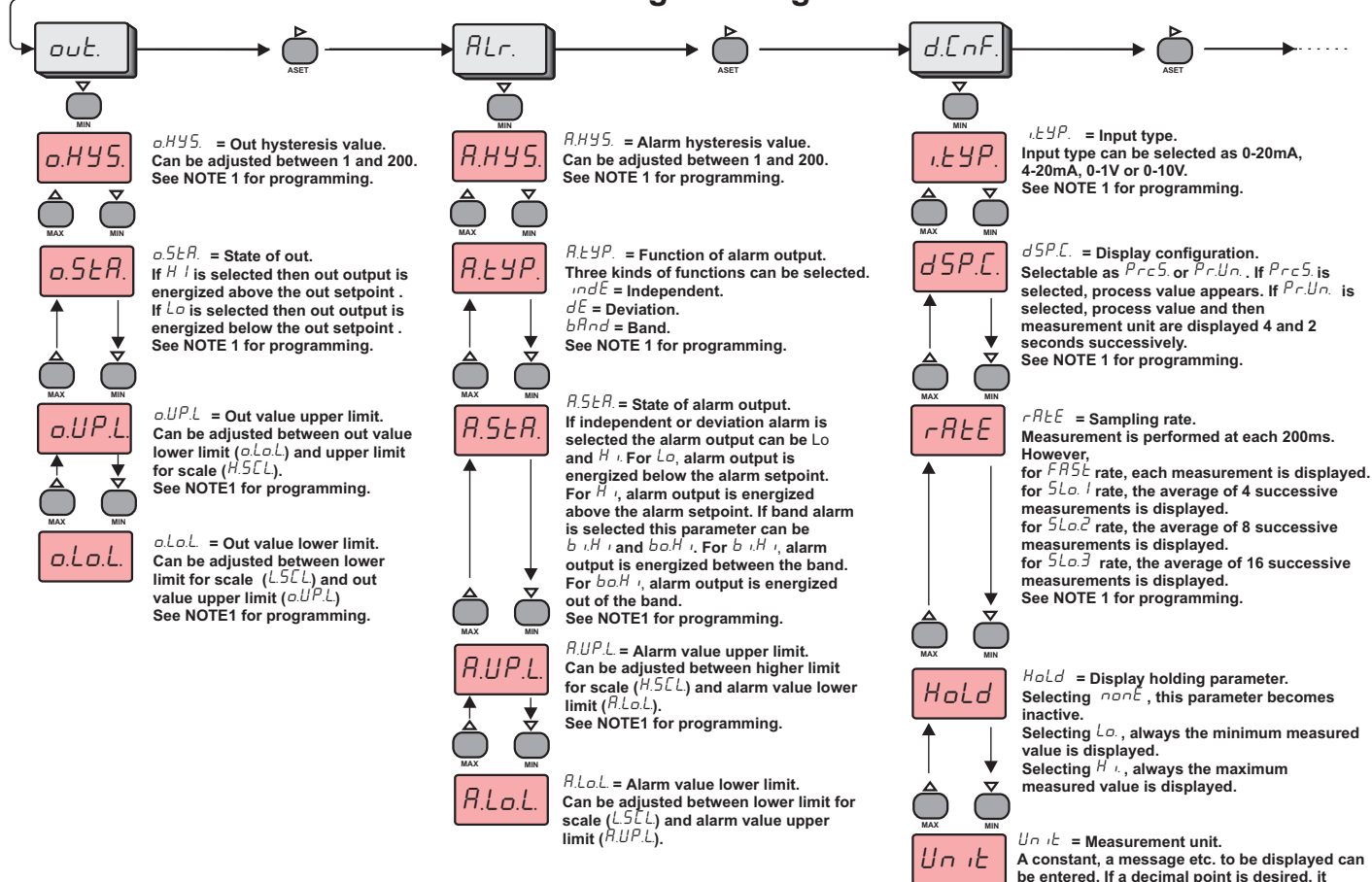
HOUSING	
Housing type	Suitable for flush-panel mounting according to DIN 43 700.
Dimentions	W72xH72xD97mm
Weight	Approx. 350g (after packaging)
Enclosure material	Self extinguishing plastics.
 While cleaning the device, solvents (thinner, benzine, acid etc.) or corrosive materials must not be used.	

up to date: 01022014, modification reserved and can be change any time previous notice !

Run mode

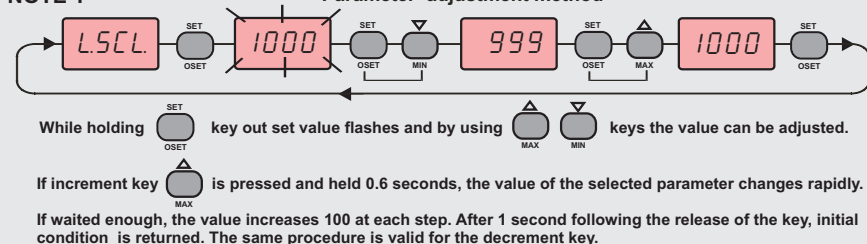


Programming mode



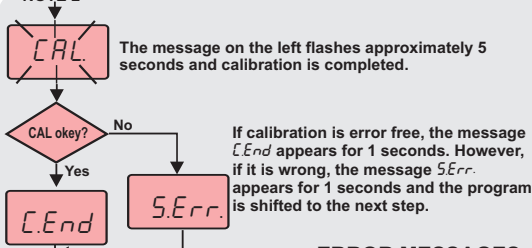
NOTE 1

Parameter adjustment method

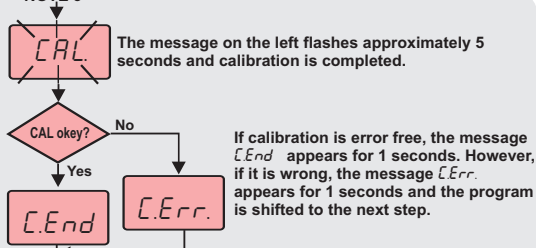


For including decimal point first, then, keys are pressed and held together. And then, by using key decimal point can be adjusted.

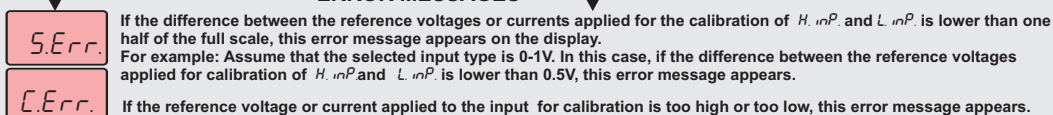
NOTE 2

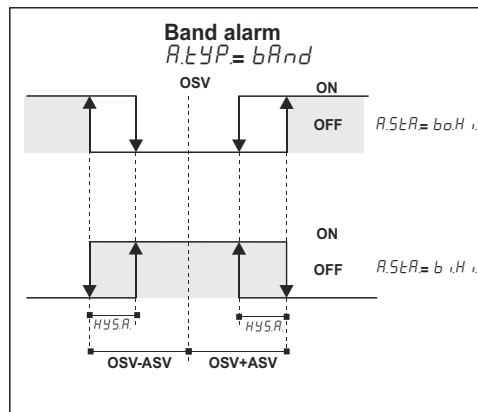
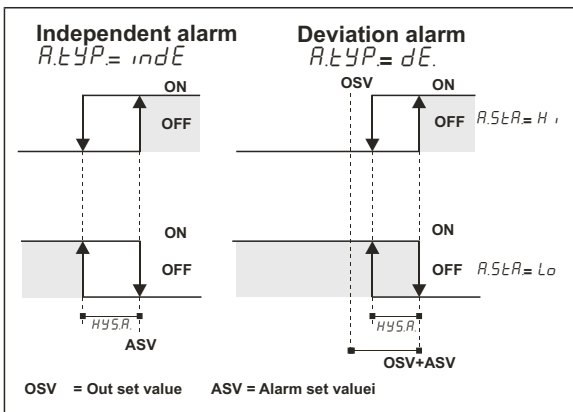
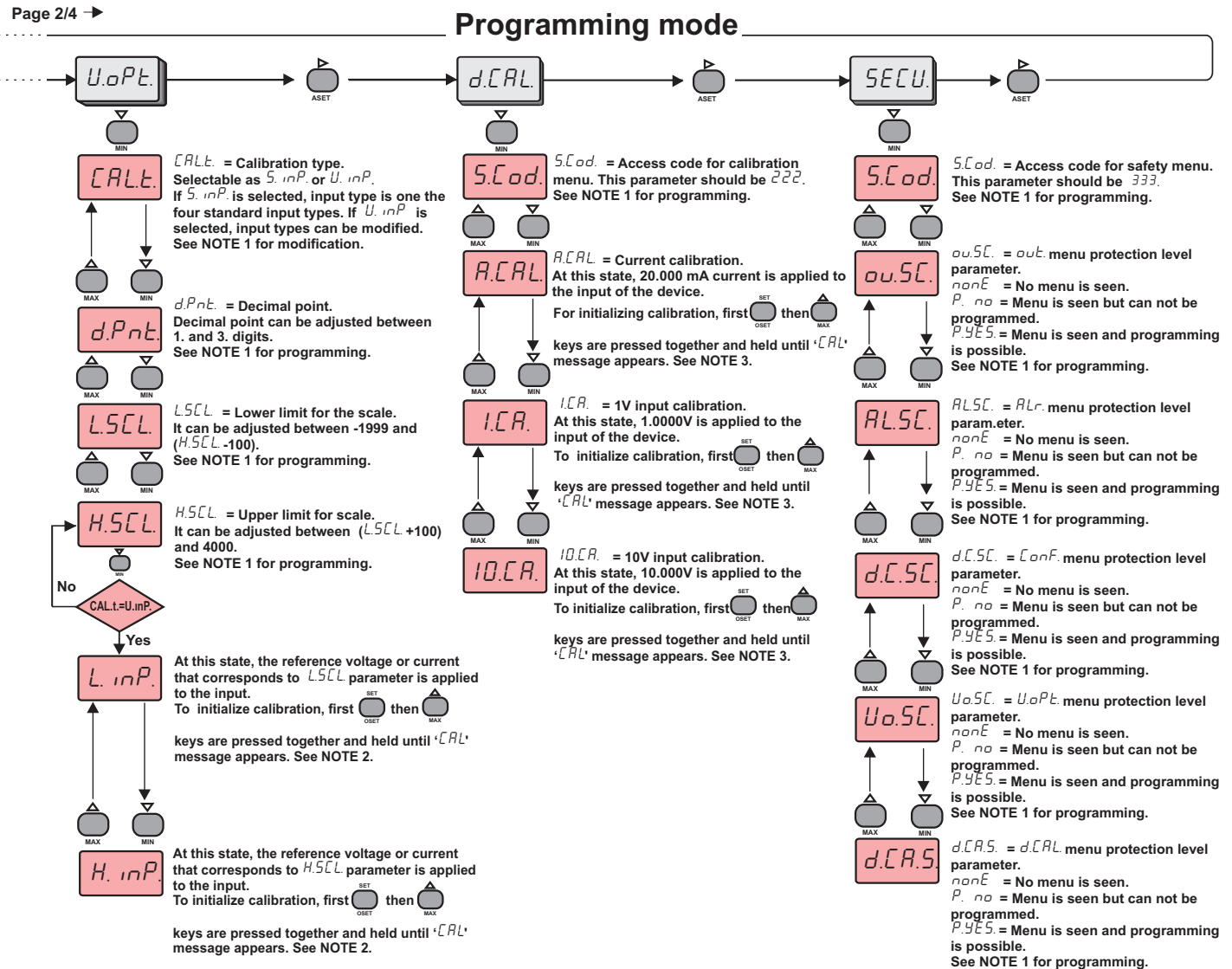
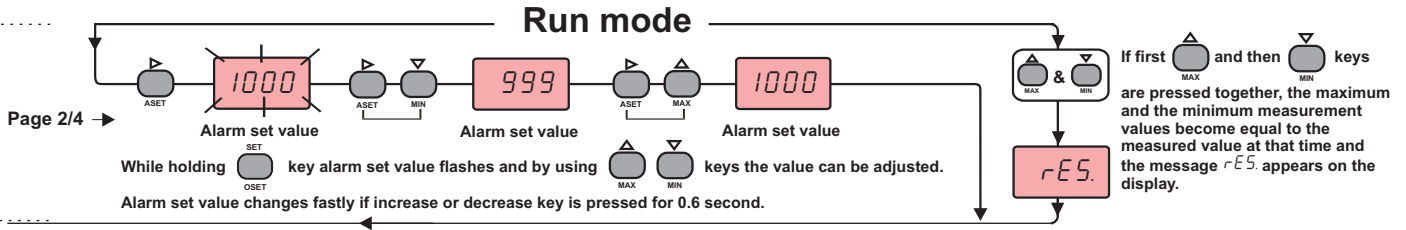


NOTE 3



ERROR MESSAGES





Run mode Error messages

- Measured value is below scale
- L.inP.**
Input voltage or input current is below zero
- H.inP.**
Input voltage is above 14V or input voltage is above 25mA

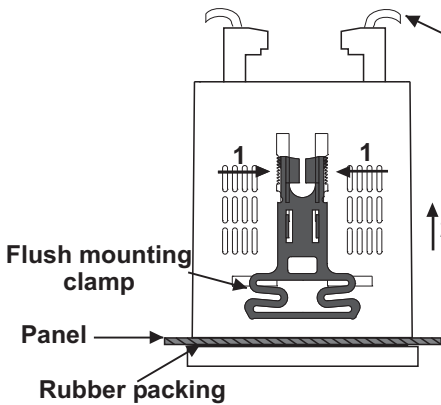
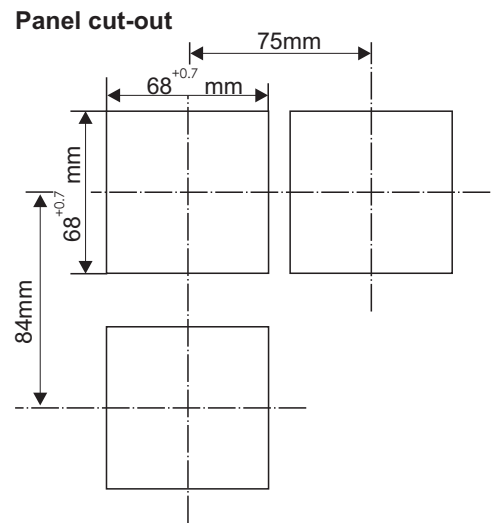
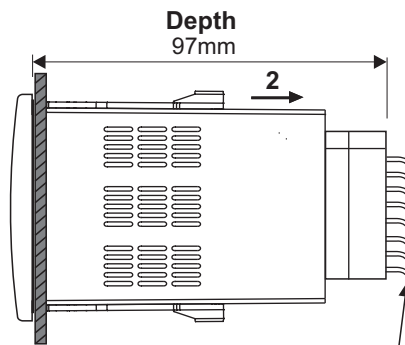
TERMS



- 1) Shows out status.
- 2) Shows alarm status.
- 3) Shows measurement value, measurement unit and maximum and minimum measured values. (Run mode)
Shows name, value and unit of parameters. (Programming mode)
- 4) Shows maximum measured value. (Run mode)
Increases value or adjusts parameter. (Programming mode)
- 5) Shows minimum measured value. (Run mode)
Decreases value or adjusts parameter. (Programming mode)
- 6) Shows alarm set value. (Run mode)
Menu selection key. (Programming mode)
- 7) Shows out set value. (Run mode)
Parameter adjustment key. (Programming mode)

(1),(2) Out and Alarm LED	3mm bright red LED
(3) Digital display	4 digits 7 segment red LED display
Character height	14.2mm
(4),(5),(6),(7) Key pad	Mikro switch

DIMENSIONS



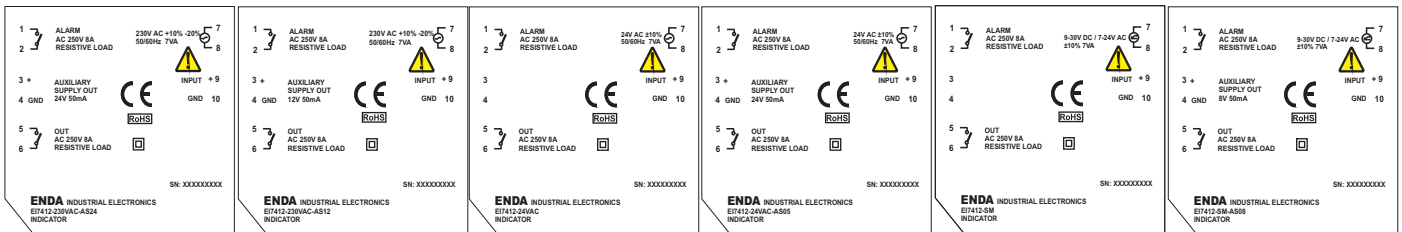
- Connection cables**
- For removing mounting clamps:
- Push the flush-mounting clamp in direction 1 as shown in the figure left.
 - Then, pull out the clamp in direction 2.

Note 1) While panel mounting, additional distance required for connection cables should be considered.
2) Panel thickness should be maximum 10mm.
3) If there is no 90mm free space at back side of the device, it would be difficult to remove it from the panel.

CONNECTION DIAGRAM



ENDA EI7412 is intended for installation in control panels. Make sure that the device is used only for intended purpose. The shielding must be grounded on the instrument side. During an installation, all of the cables that are connected to the device must be free of energy. The device must be protected against inadmissible humidity, vibrations, severe soiling and make sure that the operation temperature is not exceeded. All input and output lines that are not connected to the supply network must be laid out as shielded and twisted cables. These cables should not be close to the power cables or components. The installation and electrical connections must be carried on by a qualified staff and must be according to the relevant locally applicable regulations.



NOTE : SUPPLY :



Note : 1) Mains supply cords shall meet the requirements of IEC 60227 or IEC 60245.
2) In accordance with the safety regulations, the power supply switch shall bring the identification of the relevant instrument and it should be easily accessible by the operator.