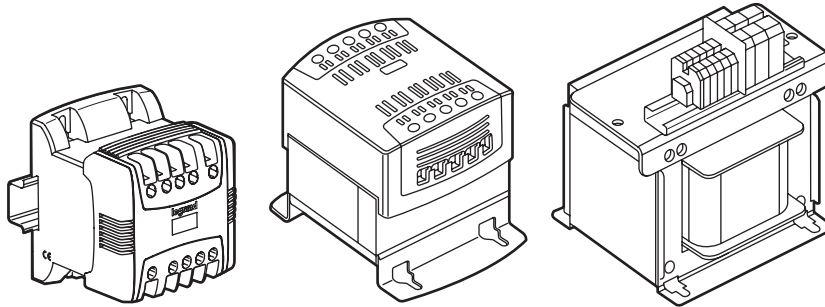


Single-phase control and signaling transformer

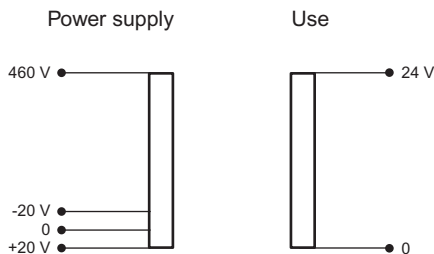
Cat. Nos.: 442 41/42/43/44/45/46/47/48/49/50
442 81/82/83/84/85/86/87/88/89/90/91



CONTENTS	Page
1. Operating principle	1
2. General characteristics	1
3. Range	2
4. Mechanical characteristics	2
5. Determination of transformer's power ..	3
6. Electrical characteristics	3
7. Characteristics of insulating materials	4

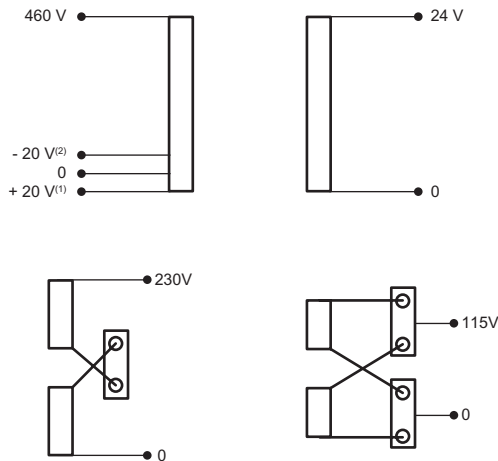
1. OPERATING PRINCIPLE

This transformer is intended to supply control and signalling equipment housed inside an enclosure (contactors, relays, automation systems, etc...).



Certain equipment needs to be supplied with a specific voltage.

Transformers are fitted with adjustment taps of + and - 20 V on the terminal strip of the primary circuit, to adjust the secondary voltage, which is influenced by the voltage of the power supply network and/or by a device under-loaded.



(1) Up terminal: 480 V or load lower than the rated power,
(2) Up terminal: 440 V or load lower than the rated power.

2. GENERAL CHARACTERISTICS

Single-phase 50-60 Hz class I.
IP2x up to 400 VA without connection strip
IP 00 with connection strip - IK 04.
Insulation voltage between windings: 4680 V.
Maximum ambient operating temperature: 50° C.
Protected against involuntary or accidental contacts with live parts up to 1000 VA.

2.1 Conformities

Conform to IEC EN 61558-2-2 and 2-4 or 2-6.
UL 506 / CSA C22-2 n°66 agreements us.
Products suitable for the construction of equipment compliant with EN 61131-2, EN 60204-1 and EN 60439-1.
Marking

2.2 Transformer protection

Transformers can be protected by a gG type fuse or by a C type circuit-breaker.
Supplied with a connecting strip 0 V / earth up to 1000 VA.

2.3 Casing

Covered up to 1000 VA.
Bare as from 1600 VA.

2.3.1 Cover

Polyamide 6/6.
RAL 7 035.
Information : Laser-engraved on the front face cover guaranteeing indelibility :
- product Cat. No.,
- voltages,
- rated power / instantaneous power,
- protection device rating (fuses or circuit-breakers),
- compliances and agreements,
- terminal strip marking.

Front face : flat surface 25 x 10 mm allowing marking by:

- labels or adhesive label holders,
- inscription : manual,
-

2.3.2 base

- 40 to 400 VA: polyamide 6/6, glass-filled, flame-retardant fixing by screws or clips up to 250 VA on rail ,
- 400 VA fixing by screw only,
- 630 to 1000 VA: metal base with epoxy-polyester coating RAL 7 000,
- 1600 to 8000 VA: metal base with anti-corrosion coating.

Single-phase control and signaling transformer

Cat. Nos.: 442 41/42/43/44/45/46/47/48/49/50
442 81/82/83/84/85/86/87/88/89/90/91

2. GENERAL CHARACTERISTICS (continued)

2.3 Casing (continued)

2.3.3 Circuit

In silicon magnetic steel sheet.

Coating: matte black paint as from 630 VA.

2.3.4 Connection terminal strip

- 40 VA to 400 VA: terminal fitted with a cable clamp plate with slotted cross-head type Z screw.

- from 630 VA to 1000 VA: cage terminals with slotted cross-head type Z screw.

- 1600 to 8000 VA: connection to Viking terminal block.

3. RANGE

Primary 460 V ± 20 V (440 - 460 - 480)

Secondary 24 V - 115 / 230 V

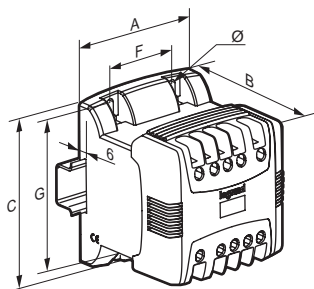
Power according to IEC and CSA	Prim: 460 ± 20 V Sec: 24 V	Prim: 460 ± 20 V Sec: 115/230 V
40 VA	442 41	442 81
63 VA	442 42	442 82
100 VA	442 43	442 83
160 VA	442 44	442 84
250 VA	442 45	442 85
400 VA	442 46	442 86
630 VA	442 47	442 87
1000 VA	442 48	442 88
1600 VA	442 49	442 89
2500 VA	442 50	442 90
4000 VA	-	442 91

Interference filtering.

4. MECHANICAL CHARACTERISTICS

4.1 Mechanical characteristics

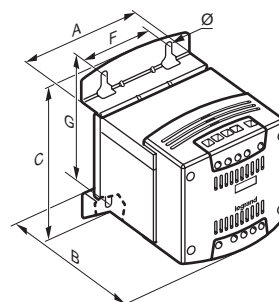
4.1.1 Transformers 40 - 63 - 100 - 160 - 250 - 400 VA



Catalogue number	Power (VA)	Dimensions (mm)			Fixing (mm)			Weight (Kg)
		A	B	C	F	G	Diameter	
442 41/81	40	94	78	113	50	100	5.2	1.23
442 42/82	63	94	85	113	50	100	5.2	1.56
442 43/83	100	94	94	113	50	100	5.2	1.94
442 44/84	160	94	112	113	50	100	5.2	2.6
442 45/85	250	106	123	115	50	100	5.2	3.82
442 46/86	400	120	140	140	62.5	125	5.2	5.82

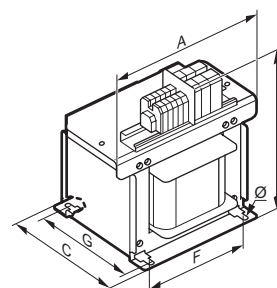
(1) Reminder: transformers 40 - 63 - 100 - 160 - 250 VA can also be fixed on rail 3.

4.1.2 Transformers 630 - 1000 VA



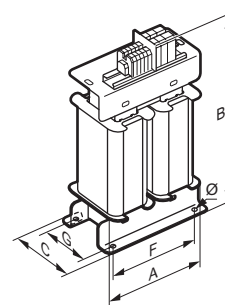
Catalogue number	Power (VA)	Dimensions (mm)			Fixing (mm)			Weight (Kg)
		A	B	C	F	G	Diameter	
442 47/87	630	132	155	175	75	150	5.5	8
442 48/88	1000	150	199	206	100	175	7	14.9

4.1.3 Transformers 1600 - 2500 VA



Catalogue number	Power (VA)	Dimensions (mm)			Fixing (mm)			Weight (Kg)
		A	B	C	F	G	Diameter	
442 49/89	1600	220	245	191	150	153	9	25.6
442 50/90	2500	300	292	171	200	114	9	33.1

4.1.4 Transformer 4000 VA



Catalogue number	Power (VA)	Dimensions (mm)			Fixing (mm)			Weight (Kg)
		A	B	C	F	G	Diameter	
442 91	4000	230	340	205	180	130	11	31

Single-phase control and signaling transformer

Cat. Nos.: 442 41/42/43/44/45/46/47/48/49/50
442 81/82/83/84/85/86/87/88/89/90/91

6. ELECTRICAL CHARACTERISTICS (continued)

LINE PROTECTION:

Min. rating of protections for primary supply of.

Power	460 V single phase / aM type cart fuse
40 VA	13092 / 0.25 A
63 VA	13095 / 0.5 A
100 VA	13001 / 1 A
160 VA	13001 / 1 A
250 VA	13002 / 2 A
400 VA	13002 / 2 A
630 VA	13004 / 4 A
1000 VA	13004 / 4 A
1600 VA	13006 / 6 A
2500 VA	13010 / 10 A
4000 VA	13016 / 16 A

Technical characteristics of transformers at secondaries.

Rating power	24 V		115 V		230 V	
	Rating	M.C.B. Cat. No.	Rating	M.C.B. Cat. No.	Rating	M.C.B. Cat. No.
IEC and CSA						
40 VA	2	T2AL ⁽¹⁾	04	T0.4AL ⁽¹⁾	02	T0.2AL ⁽¹⁾
63 VA	3.15	T3.15AL ⁽¹⁾	0.63	T0.63 ⁽¹⁾	0.315	T0.315AL ⁽¹⁾
100 VA	4	06391	1	06388	0.5	06386
160 VA	8	06393	2	06389	1	06388
250 VA	10	06394	2	06389	1	06388
400 VA	16	06396	4	06391	2	06389
630 VA	25	06398	6	06392	3	06390
1000 VA	40	06400	8	06393	4	06391
1600 VA	63	06474	13	06395	8	06393
2500 VA	100	06476	20	06397	10	06394
4000 VA	-	-	32	06399	16	06396

(1) Fuses IEC 127 (cartridges 5 x 20 T type)

T: time delay fuse

L: low breaking capacity

7. CHARACTERISTICS OF INSULATING MATERIALS

Cover and base

Cover, polyamide 6/6 Ral 7 035.

Base, polyamide 6/6 glass filled Ral 7 000.

- operating temperature - 30 to +100 °C,
- flame resistance UL94 NFT 51-072 VO,
- resistance to glow wire test NFC 20-455. 960 °C,
- tensile strength NFT 51-034 110 N/mm²,
- resistance to Charpy impact test NFT 51-035. 33 kJ/m²,
- dielectric strength VDE 0303/2 20 kV/mm,
- tracking current resistance CEI 112 300 V,
- resistance to molds and tropical and fungi good.

Resistance to chemicals at a temperature of 23° C,

+: excellent resistance 0: moderate resistance -: low resistance.

Acids:

- Mineral: hydrochloric 10% 0
- sulphuric 10 % -
- nitric - all concentrations -
- Organic: acetic 10 % 0
- formic 10 % -

Bases:

- Mineral +
- Organic +
- Oils +
- Greases +
- Oil products +
- Chlorinated solvents +
- Phenols -
- Alcohols +
- Hydrocarbons +
- Mineral salts +