

# Low voltage 0,1-30kVA, IP23



## Type 3LT-23

Capsulated three-phase non short circuit proof transformer with power range up to 30 kVA.

Designed and tested according to EN61558-2-4. Standard types supplied with separate primary and secondary windings. This generates "a new system" in which any earth faults are eliminated. Steel plate enclosure, degree of protection IP23.

### Applications:

This is an ideal design for transforming voltage up or down or for installations which require a galvanic partition between the primary and secondary voltage. Protects installations and equipment by generating "a new system" in which any earth faults are eliminated. E.g. electric motor, compressor, cooling plants, automatic washing machines, and to uphold IT or TN-S systems. Custom designed types with other voltages, frequencies, electrostatic shield between primary and secondary, regulations, tappings, transport wheels or other features are available upon request.



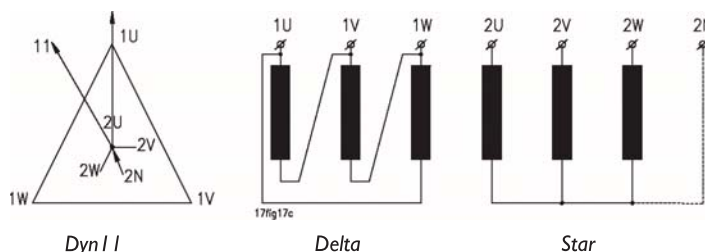
Noratel declare and guarantee that all transformers are designed according to the following standards; EN61558-2-4:1997, EN55014:1993 (EN55014-1:1997), EN61000-3-2:1995, EN61000-3-3:1995, EN55104:1995, (EN55014-2:1997), EN50081-1:1992, EN50082-2:1995 based on the following directives; L.V.D 73/23/EEC, 93/68/EEC, EMC 89/336/EEC, 91/263/EEC.

### Technical specifications

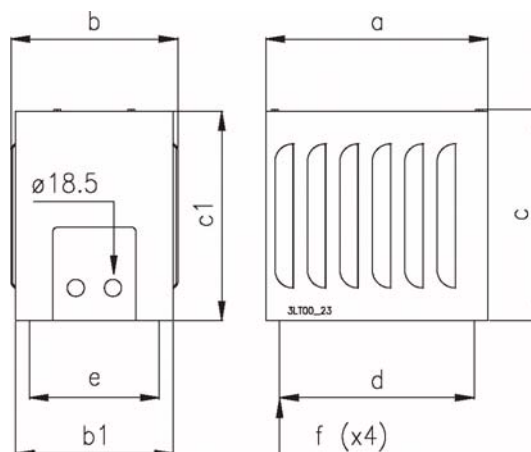
- Input voltage: 3x115 to 3x1000V
- Frequency: 47-63Hz
- Output voltage: 3x115 to 3x1000V
- Vector group: Dyn11 (standard)  
Dyn5, Ynd1, Ynd5
- According to: EN61558-2-4  
low voltage directive
- Test voltage: 3kV AC RMS
- Construction class: I
- Insulation class: B (130°C)  
F (155°C)
- Ambient temp. (t<sub>a</sub>): 40°C
- Degree of protection: IP23
- Type of termination: Terminal block

Can be supplied with Cu-bars termination depending on voltage/current.

### Standard vector group

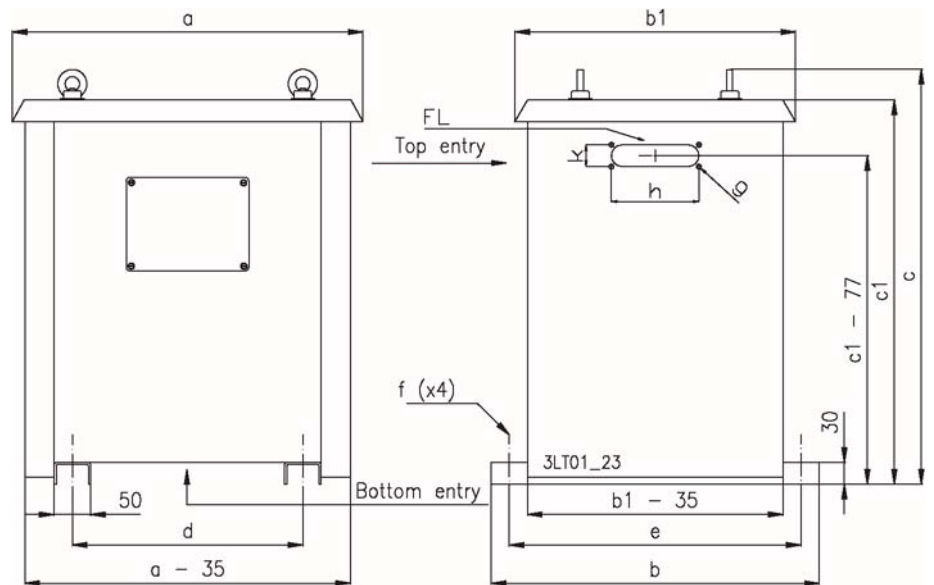
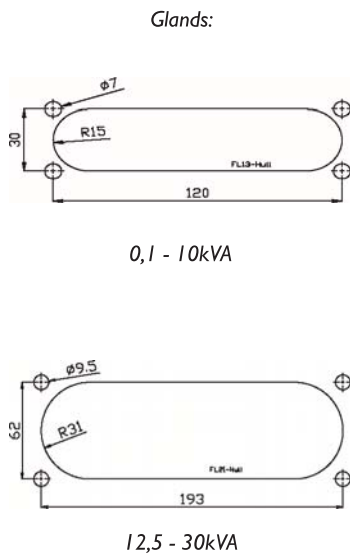


### Dimensions



3LT 0.1 - 3LT 0.80

## Dimensions



Standard types supplied with covers on top entry cable glands

3LT 1.25 - 3LT 30.0

## Standard types 3LT-23

Power (kVA)	Type	Class	Dimensions (mm)								Weight (kg)
			a	b	c	b1	c1	d	e	f	
<b>3LT-23</b>											
0,1	3LT 0.10	B	240	180	228	170	225	210	140	8.0	5
0,15	3LT 0.15	B	240	180	228	170	225	210	140	8.0	5,6
0,25	3LT 0.25	B	280	210	248	200	245	250	170	8.0	7,8
0,4	3LT 0.40	B	280	210	248	200	245	250	170	8.0	9,5
0,5	3LT 0.50	B	280	210	248	200	245	250	170	8.0	11,5
0,63	3LT 0.63	B	280	210	248	200	245	250	170	8.0	13
0,8	3LT 0.80	B	280	210	248	200	245	250	170	8.0	14,5
1,25	3LT 1.25	B	309	290	401	223	362	176	240	12.0	21
2,0	3LT 2.00	B	309	290	401	223	362	176	240	12.0	26,5
2,5	3LT 2.50	B	343	320	431	253	392	200	270	12.0	34
3,0	3LT 3.00	B	343	320	431	253	392	200	270	12.0	38
3,5	3LT 3.50	F	377	350	461	283	422	224	300	12.0	39
4,0	3LT 4.00	F	377	350	461	283	422	224	300	12.0	45
5,0	3LT 5.00	F	377	350	461	283	422	224	300	12.0	50
6,3	3LT 6.30	F	427	400	515	333	467	264	350	15.0	63
8,0	3LT 8.00	F	427	400	515	333	467	264	350	15.0	73
10	3LT 10.0	F	427	400	515	333	467	264	350	15.0	83
12,5	3LT 12.5	F	481	450	590	383	542	316	400	15.0	96
16	3LT 16.0	F	481	450	590	383	542	316	400	15.0	122
20	3LT 20.0	F	481	450	590	383	542	316	400	15.0	148
25	3LT 25.0	F	599	550	630	480	582	356	500	15.0	170
30	3LT 30.0	F	599	550	630	480	582	356	500	15.0	212

# 3-phase low voltage 40-2000 kVA, IP23



## Type 3LT-23

Capsulated three-phase non short circuit proof transformer with power range up from 40 to 2000 kVA. Designed and tested according to IEC60726/ IEC60076. Standard types supplied with separate primary and secondary windings. This generates "a new system" in which any earth faults are eliminated. Steel plate enclosure, degree of protection IP23.

### Applications:

This is an ideal design for transforming voltage up or down or for installations which require a galvanic partition between the primary and secondary voltage. Protects installations and equipment by generating "a new system" in which any earth faults are eliminated. E.g. electric motor, compressor, cooling plants, automatic washing machines, and to uphold IT or TN-S systems. Custom designed types with other voltages, frequencies, electrostatic shield between primary and secondary, regulations, tapplings, transport wheels or other features are available on request.

### Technical specifications

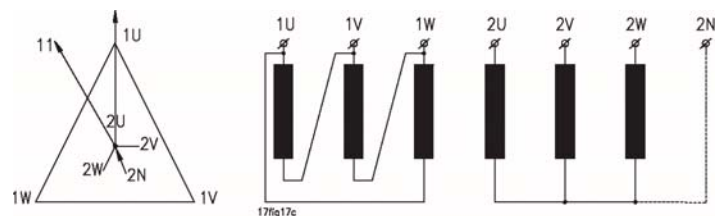
- Input voltage: 3x I 15 to 3x I 000V
- Frequency: 47-63Hz
- Output voltage: 3x I 15 to 3x I 000V
- Vector group: Dyn I I (standard)  
Dyn5, Ynd 1, Ynd5
- According to: IEC60726/IEC60076  
D.N.V.
- Test voltage: 3kV AC RMS
- Construction class: I
- Insulation class: F (155°C) - standard  
H (180°C)
- Ambient temp. ( $t_a$ ): 45°C
- Degree of protection: IP23
- Type of termination: Cu-bars

Supplied with Al-bars for termination from 630 kVA with high currents.



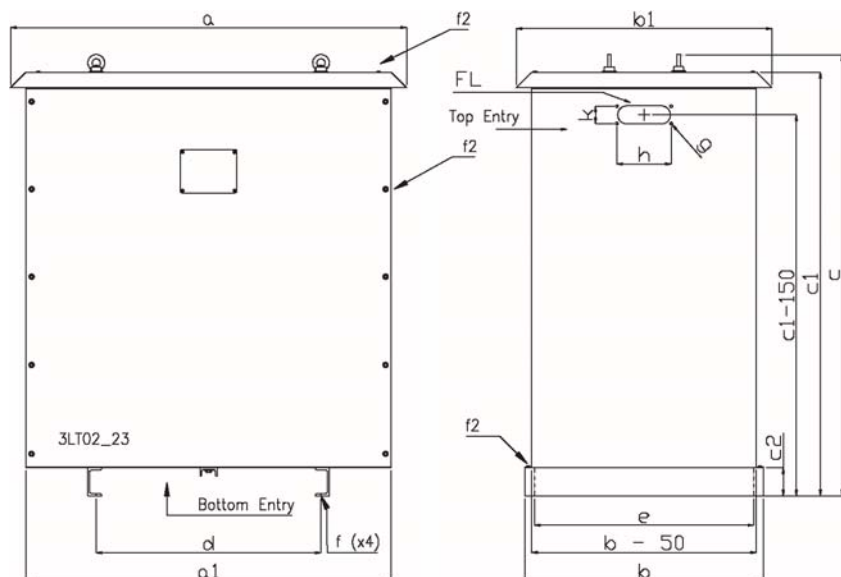
Noratel declare and guarantee that all transformers are designed according to the following standards; IEC60726, IEC60076, D.N.V., EN55014:1993 (EN55014-1:1997), EN61000-3-2:1995, EN61000-3-3:1995, EN55104:1995, (EN55014-2:1997), EN50081-1:1992, EN50082-2:1995 based on the following directives; L.V.D 73/23/EEC, 93/68/EEC, EMC 89/336/EEC, 91/263/EEC.

### Standard vector group

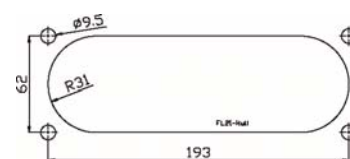


### Accessories

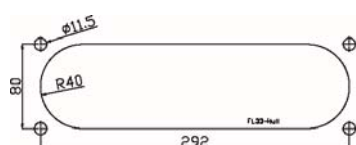
- Cable glands on primary/secondary [CG]
- Wheels for transport [WH]
- Temperature control units with alarm or trip [TC]
- PEN-link [PL]
- Top entry [TE]
- PT 100 sensors [PT]
- RTD sensors [RTD]
- PTC sensors [PTC]
- Thermographic windows [TW]



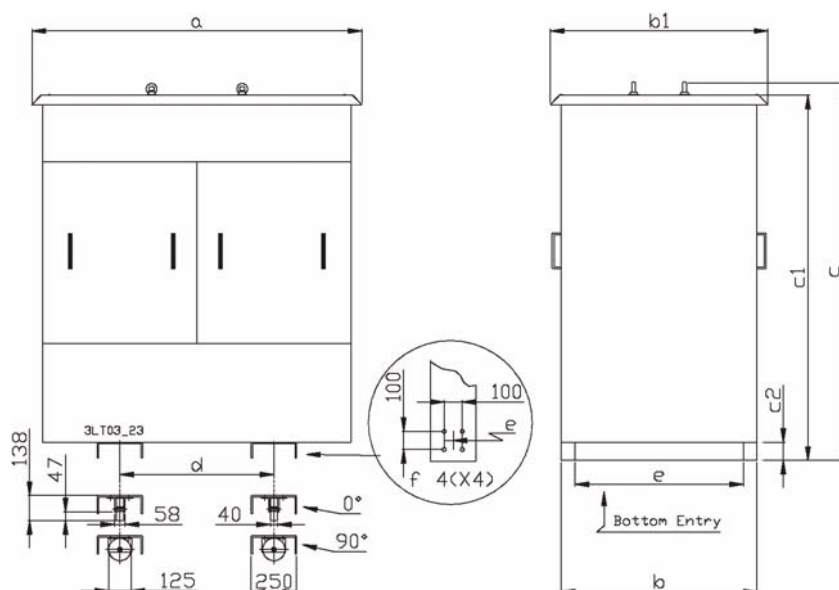
3LT 40 - 3LT 800



3LT 1000 - 3LT 2000



Standard types supplied with covers on top entry cable glands



### Standard types 3LT-23

Power (kVA)		Type	Dimensions (mm)										Weight (kg)
Cl. F	Cl. H		a	b	c	a1	b1	c1	c2	d	e	f	
<b>3LT-23</b>													
40	45	3LT 40.0	670	520	827	600	540	770	50	340	470	14	185
50	56	3LT 50.0	670	520	827	600	540	770	50	340	470	14	218
63	70	3LT 63.0	700	520	877	630	540	820	50	360	470	14	252
80	89	3LT 80.0	700	520	877	630	540	820	50	360	470	14	302
100	110	3LT 100	930	630	1057	840	670	1000	100	590	580	18	375
125	138	3LT 125	930	630	1057	840	670	1000	100	590	580	18	425
160	175	3LT 160	1050	700	1137	960	740	1080	100	590	650	18	520
200	220	3LT 200	1050	700	1137	960	740	1080	100	590	650	18	613
250	275	3LT 250	1210	800	1517	1100	860	1450	100	600	750	18	815
315	350	3LT 315	1210	800	1517	1100	860	1450	100	600	750	18	890
400	440	3LT 400	1450	900	1557	1340	960	1490	100	760	850	18	1100
500	550	3LT 500	1450	900	1557	1340	960	1490	100	760	850	18	1260
630	700	3LT 630	1670	1050	1637	1560	1110	1570	100	880	1000	18	1670
800	888	3LT 800	1820	1080	2090	1700	1200	2015	100	850	850	4x11,0	2100
1000	1100	3LT 1000	1820	1080	2090	1700	1200	2015	100	850	850	4x11,0	3000
1250	1380	3LT 1250	1820	1080	2090	1700	1200	2015	100	850	850	4x11,0	3300
1600	1750	3LT 1600	2200	1080	2355	2080	1200	2265	100	850	850	4x11,0	3700
2000	2200	3LT 2000	2200	1080	2355	2080	1200	2265	100	850	850	4x11,0	5080

# Losses / short circuit values / inrush current

Type	FE-loss (W)	CU-loss (W)	e <sub>z</sub> (%)	e <sub>r</sub> (%)	I <sub>c</sub> (xI <sub>nc</sub> )
<b>3LT</b>					
3LT 0.10	5	21	23,8	20,7	44
3LT 0.15	12	27	19,8	17,5	46
3LT 0.25	14	31	13,5	12,2	35
3LT 0.40	21	39	10,6	9,7	35
3LT 0.50	15	44	9,6	8,8	29
3LT 0.63	23	40	6,7	6,3	35
3LT 0.80	25	49	6,5	6,1	34
3LT 1.25	36	57	4,8	4,6	25
3LT 2.00	39	85	4,4	4,3	31
3LT 2.50	56	70	2,9	2,8	27
3LT 3.00	65	79	2,7	2,6	28
3LT 3.50	75	199	5,8	5,7	20
3LT 4.00	90	168	4,2	4,2	24
3LT 5.00	98	205	4,2	4,1	22
3LT 6.30	128	246	4,1	3,9	21
3LT 8.00	129	245	3,4	3,1	21
3LT 10.0	168	294	3,4	2,9	19
3LT 12.5	186	415	3,8	3,3	15
3LT 16.0	269	386	2,8	2,4	17
3LT 20.0	280	371	2,2	1,9	20
3LT 25.0	387	496	2,6	2	15
3LT 30.0	494	472	2,1	1,6	16
3LT 40.0	132	1126	3,7	2,8	12
3LT 50.0	172	996	3	2	12
3LT 63.0	191	1254	3	2	12
3LT 80.0	237	1298	2,7	1,6	11
3LT 100	258	1934	4,4	1,9	9
3LT 125	356	2497	3,7	2	8
3LT 160	378	2912	3,9	1,8	7
3LT 200	470	3355	3,8	1,7	7
3LT 250	668	3672	4,4	1,5	12
3LT 315	702	5318	5	1,7	12
3LT 400	822	6160	5,9	1,5	8
3LT 500	864	8080	6,2	1,6	7
3LT 630	1181	8535	5,7	1,4	7
3LT 800	1650	10300	6,3	1,3	10
3LT 1000	2000	9600	4,9	0,9	10
3LT 1250	2400	10000	5	0,8	10
3LT 1600	2520	12000	5	0,8	10
3LT 2000	3300	15000	5,5	0,7	10

Type	FE-loss (W)	CU-loss (W)	e <sub>z</sub> (%)	e <sub>r</sub> (%)	I <sub>c</sub> (xI <sub>nc</sub> )
<b>3LTV</b>					
3LTV 0.25	10	30	13,5	12,1	34
3LTV 0.40	12	40	10,2	10	34
3LTV 0.50	15	44	9,55	8,78	29
3LTV 0.63	23	40	6,68	6,27	35
3LTV 0.80	25	48	6,47	6,06	33
3LTV 1.00	28	40	4,1	4	32
3LTV 1.60	42	46	2,88	2,84	38
3LTV 2.00	50	50	2,6	2,5	33
3LTV 2.50	60	60	2,34	2,4	33
3LTV 3.00	60	92	3,2	3,07	25
3LTV 3.50	75	90	2,65	2,57	31
3LTV 4.00	90	90	2,3	1,8	30
3LTV 5.00	100	105	2,3	2,1	27
3LTV 6.30	130	130	2,2	2,06	31
3LTV 8.00	150	150	2	1,89	32
3LTV 10.0	160	200	2,1	2	23
3LTV 13.0	220	190	1,8	1,5	24
3LTV 16.0	290	190	1,48	1,19	26
3LTV 20.0	310	240	1,5	1,2	23
3LTV 25.0	390	280	1,55	1,15	24
<b>3LTxxN</b>					
3LT 40.0N	321	1046	3,52	2,61	11
3LT 50.0N	431	1098	3,09	2,20	12
3LT 63.0N	404	1587	3,59	2,52	9
3LT 80.0N	622	1362	2,96	1,70	10
3LT 100N	673	1896	3,88	1,90	8
3LT 125N	797	2133	3,91	1,71	8
3LT 160N	901	3221	4,30	2,01	8
3LT 200N	1283	3500	5,10	1,72	7
3LT 250N	1590	3480	3,27	1,39	7
<b>3RT-LI</b>					
3RT 4.0LI	15	180	4,63	4,5	
3RT 6.3LI	27	259	4,19	4,11	
3RT 10.0LI	47	372	3,73	3,72	
3RT 12.5LI	39	381	3,09	3,04	
3RT 16.0LI	48	468	2,94	2,92	
3RT 20.0LI	60	532	2,68	2,66	
3RT 25.0LI	71	549	2,31	2,2	
3RT 30.0LI	83	560	1,91	1,87	