## DU / SU Series

## Industrial Grade Step-Up or Step-Down Transformers

Signal's DU and SU transformers have been designed to provide a multitude of step-up or step-down voltage configurations to accommodate various input voltages available throughout the world.

## General Specifications

- Power - 250 VA to 10 KVA
(500 VA to 20 KVA possible if used as auto-transformer)
- Dielectric Strength - 2500 Vrms Hipot
- Primaries - Dual/tapped primaries:
- Parallel connected ( $104 \mathrm{~V}, 110 \mathrm{~V}, 120 \mathrm{~V}-50-500 \mathrm{~Hz}$ )
- Series connected ( 208 V, 220 V, 230 V, 240 V)
- Secondaries - Dual/tapped secondaries:

DU Series:

- Parallel connected ( $104 \mathrm{~V}, 110 \mathrm{~V}, 120 \mathrm{~V} / 50-500 \mathrm{~Hz}$ )
- Series connected ( $208 \mathrm{~V}, 220 \mathrm{~V}, 230 \mathrm{~V}, 240 \mathrm{~V} / 50-500 \mathrm{~Hz}$ ) SU Series:
- Parallel connected ( 208 V, 220 V, 240 V / 50-500 Hz)
- Series connected (416 V, $440 \mathrm{~V}, 460 \mathrm{~V}, 480 \mathrm{~V} / 50-500 \mathrm{~Hz}$ )
- Electrostatic Shield - Solid copper foil connected to ground.

The connection may be opened if an un-grounded shield is desired.

- Terminals - Nickel plated brass screw-type terminals
- Insulation System-Class B, $130^{\circ} \mathrm{C}$
- Higher insulation classes available
- DU-1, DU-2 and DU-3 are UL 5085-1, UL 5085-2 for construction, spacing and insulation system



## DU / SU Series Datasheet

## Part Number Selection

| Part <br> Number | KVA | Series Secondaries |  | Parallel Secondaries |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  |  | Volts | Max <br> Amps | Volts | Max <br> Amps |
| DU-1/4 | $1 / 4$ | $0 / 208 / 220 / 240$ | 1.1 | $0 / 104 / 110 / 120$ | 2.2 |
| DU-1/2 | $1 / 2$ | $0 / 208 / 220 / 240$ | 2.3 | $0 / 104 / 110 / 120$ | 4.6 |
| DU-1 $^{*}$ | 1 | $0 / 208 / 220 / 240$ | 4.5 | $0 / 104 / 110 / 120$ | 9 |
| DU-2 $^{*}$ | 2 | $0 / 208 / 220 / 240$ | 9 | $0 / 104 / 110 / 120$ | 18 |
| DU-3 $^{*}$ | 3 | $0 / 208 / 220 / 240$ | 14 | $0 / 104 / 110 / 120$ | 28 |
| DU-5 | 5 | $0 / 208 / 220 / 240$ | 23 | $0 / 104 / 110 / 120$ | 46 |
| DU-7.5 | 7.5 | $0 / 208 / 220 / 240$ | 31 | $0 / 104 / 110 / 120$ | 62 |
| DU-10 | 10 | $0 / 208 / 220 / 240$ | 41 | $0 / 104 / 110 / 120$ | 82 |
|  |  |  |  |  |  |


| Part <br> Number | KVA | Series Secondaries |  | Parallel Secondaries |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  |  | Max <br> Amps | Volts | Max <br> Amps |  |
| SU-1/4 | $1 / 4$ | $0 / 416 / 440 / 480$ | 0.55 | $0 / 208 / 220 / 240$ | 1.1 |
| SU-1/2 | $1 / 2$ | $0 / 416 / 440 / 480$ | 1.15 | $0 / 208 / 220 / 240$ | 2.3 |
| SU-1 | 1 | $0 / 416 / 440 / 480$ | 2.25 | $0 / 208 / 220 / 240$ | 4.5 |
| SU-2 | 2 | $0 / 416 / 440 / 480$ | 4.5 | $0 / 208 / 220 / 240$ | 9 |
| SU-3 | 3 | $0 / 416 / 440 / 480$ | 7 | $0 / 208 / 220 / 240$ | 14 |
| SU-5 | 5 | $0 / 416 / 440 / 480$ | 11.5 | $0 / 208 / 220 / 240$ | 23 |
| SU-7.5 | 7.5 | $0 / 416 / 440 / 480$ | 15.5 | $0 / 208 / 220 / 240$ | 31 |
| SU-10 | 10 | $0 / 416 / 440 / 480$ | 20.5 | $0 / 208 / 220 / 240$ | 41 |



SU Transformer


As shown on the schematic diagram the DU line incorporates dual primaries and secondaries. All four windings are identically rated at 0/104/110/120 V. This permits series or parallel connections on either primary or secondary. Therefore, a nominal 110 V to $110 \mathrm{~V}, 220 \mathrm{~V}$ to 220 $\mathrm{V}, 110 \mathrm{~V}$ to 220 V , or 220 V to 110 V transformer can be configured. The winding tap permits intermediate series ratings such as $208 \mathrm{~V}, 214 \mathrm{~V}$, or 230 V . It is also possible to make auto-transformer connections by connecting a primary group in series with a secondary group. Such nominal ratings as 440 V to 220 V or 220 V to 440 V can be configured in addition to the standard ratings described above. A further advantage to autotransformer connection is the fact that the kVA rating of a particular type is doubled.

* USR component transformer evaluated to the standard for General Purpose transformers, UL 5085-1, UL 5085-2 for construction, spacing and insulation system. Provided with a Class 105 insulation system. Transformers are intended for use in end-product equipment.


Custom versions available upon request.

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## DU / SU Series Datasheet

## Mechanical Specifications

| Part Number |  | Dimensions |  |  |  |  | Mtg. \& Term. Screw | Weight |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | L * | W * | H * | ML • | MW $\ddagger$ |  |  |
|  |  | Inches (mm) |  |  |  |  |  | Ibs (kg) |
| DU-1/4 | SU-1/4 | 5.31 (134.9) | 4.25 (107.9) | 5.25 (133.4) | 4.37 (111.1) | 2.50 (63.5) | \#10 | 12 (5.44) |
| DU-1/2 | SU-1/2 | 5.31 (134.9) | 5.31 (134.9) | 5.25 (133.4) | 4.37 (111.1) | 3.62 (92.1) | \#10 | 18 (8.16) |
| DU-1 | SU-1 | 7.56 (192.1) | 6.25 (158.8) | 7.37 (187.3) | 6.75 (171.5) | 4.12 (104.8) | 1/4 | 33 (14.97) |
| DU-2 | SU-2 | 7.56 (192.1) | 8.25 (209.6) | 7.37 (187.3) | 6.75 (171.5) | 6.00 (152.4) | 1/4 | 56 (25.40) |
| DU-3 | SU-3 | 7.56 (192.1) | 9.25 (234.9) | 7.37 (187.3) | 6.75 (171.5) | 7.00 (177.8) | 1/4 | 70 (31.75) |
| DU-5 | SU-5 | 7.56 (192.1) | 10.75 (273.1) | 7.37 (187.3) | 6.75 (171.5) | 8.50 (215.9) | 1/4 | 89 (40.37) |
| DU-7.5 | SU-7.5 | 9.00 (228.6) | 10.75 (273.1) | 8.00 (203.2) | 7.50 (190.5) | 6.50 (165.1) | 1/4 | 105 (47.63) |
| DU-10 | SU-10 | 9.00 (228.6) | 13.00 (330.2) | 8.00 (203.2) | 7.50 (190.5) | 9.00 (228.6) | 1/4 | 150 (68.04) |
| * Maximum |  | - $\pm 0.06$ ( 1.6 mm ) |  | $\ddagger \pm 0.12$ (3.2 mm) |  |  |  |  |



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