
ALL PURPOSE AUTO TRANSFORMERS APAT SERIES

DRY TYPE

THREE PHASE



- Efficient and low cost alternative to equivalent isolation transformers
- Use for in-house three-phase voltage transformation applications, industrial, commercial, or institutional
- All units designed and built in full compliance with NEMA and ANSI requirements
- Safe, quiet, reliable
- Sizes: 8KVA through 1100KVA
- Designed, manufactured and serviced with over 55 years experience in standard and specialty transformers



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APAT SERIES ALL PURPOSE AUTO TRANSFORMERS

Hitran Corporation manufactures and markets the APAT Series for a wide variety of applications that require a standard three phase voltage transformation.

The APAT is designed as a highly efficient, cost effective (typically 60 percent the cost of an equivalent isolation unit) alternative to the General Purpose Isolation and Drive Isolation Transformers.

The APAT's primary function is to match an available utility voltage with equipment of a different input voltage.

STANDARD FEATURES:

- NEMA I Enclosed
- Three Phase, 60 Hertz Operation
- WYE Connected with Full Rated Neutral
- 150°C Temperature Rise/220°C UL Recognized Insulation System
- Input has 5% FCAN and FCBN Taps
- Size Range (KVA):
8, 12, 15, 20, 27, 34, 40, 51, 63, 75, 93, 120,
150, 180, 220, 280, 330, 440, 550, 660, 760, 870, 1100 KVA
- Standard Voltage Available (Primary or Secondary):
208, 230, 380, 415, 460, 575 Volts Nominal

OPTIONAL FEATURES:

- Open Frame Construction
- 50 Hz Operation
- Reduced Temperature Rise
- Non-Standard Voltages

THREE PHASE AUTO TRANSFORMER SIZE CODE VS. TEMPERATURE RISE

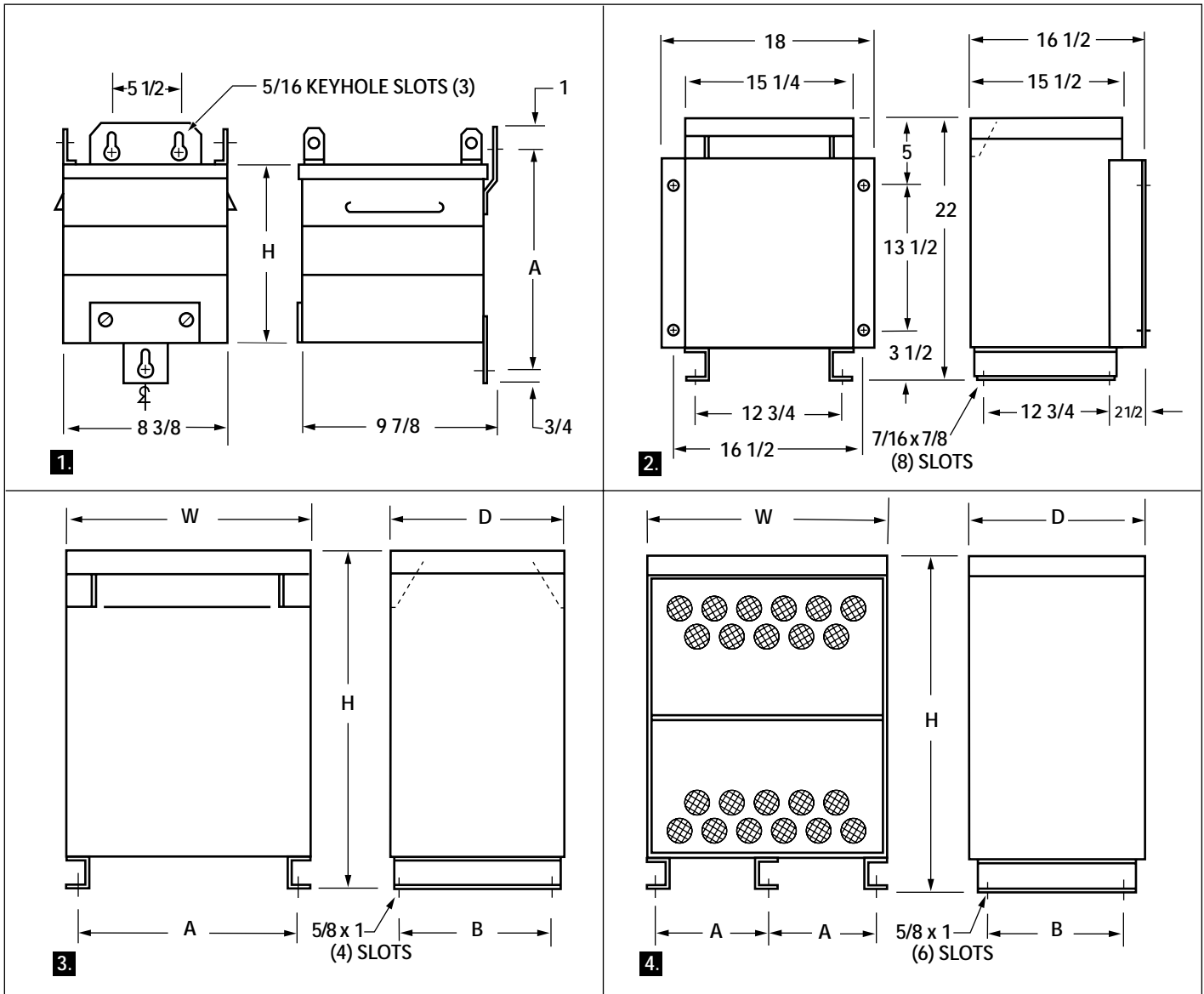
| ENCLOSURE STYLE | 3 ϕ SIZE CODE 150°C RISE | 3 ϕ SIZE CODE 115°C RISE | 3 ϕ SIZE CODE 80°C RISE | 3 ϕ SIZE CODE 55°C RISE |
|-----------------|----------------------------------|----------------------------------|---------------------------------|---------------------------------|
| 1 | — | — | — | — |
| 1 | — | — | — | — |
| 1 | — | — | — | — |
| 2 | A - C | A - C | A - B | A - B |
| 3 | D - J | D - I | C - I | C - G |
| 3 | K - M | J - L | J - K | H - J |
| 3 | N - O | M - N | L - M | K - M |
| 3 | P - R | O - Q | N - Q | N - P |
| 3 | S - U | R - T | R - S | Q - S |
| 4 | V - X | U - W | T - V | T |
| 4 | Y - Z | X - Z | W - Y | U - W |

APAT SERIES ALL PURPOSE AUTO TRANSFORMERS



| APAT SERIES SIZE & KVA vs. PS VOLTAGE CODE | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---------------------------------|----------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| PS CODE | PRIMARY VOLTS – SECONDARY VOLTS | WIRING DIAGRAM | 8KVA | 12KVA | 15KVA | 20KVA | 27KVA | 34KVA | 40KVA | 51KVA | 63KVA | 75KVA | 93KVA | 120KVA | 150KVA | 180KVA | 220KVA | 280KVA | 330KVA | 440KVA | 550KVA | 660KVA | 760KVA | 870KVA | 980KVA | 1100KVA |
| 12 | 208V±5%Y – 230Y/133 | 14 | A | A | A | A | A | B | B | C | D | D | D | F | F | G | H | I | J | K | L | M | N | N | O | O |
| 13 | 208V±5%Y – 380Y/220 | 14 | A | B | C | D | D | E | F | G | H | I | J | K | L | M | N | O | O | Q | R | S | T | T | T | U |
| 14 | 208V±5%Y – 460Y/266 | 14 | B | C | C | D | E | F | G | G | H | I | J | L | M | N | N | O | P | R | S | T | T | U | U | V |
| 15 | 208V±5%Y – 575Y/332 | 14 | B | C | D | D | F | G | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | U | V | W |
| 17 | 208V±5%Y – 415Y/240 | 14 | B | B | C | D | E | F | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | U | U |
| 21 | 230V±5%Y – 208Y/120 | 13 | A | A | A | A | A | B | B | C | C | D | D | F | F | G | H | I | J | K | L | M | N | N | O | O |
| 23 | 230V±5%Y – 380Y/220 | 14 | A | B | B | C | D | E | F | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | T | T |
| 24 | 230V±5%Y – 460Y/266 | 14 | B | B | C | D | E | F | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | T | U | U |
| 25 | 230V±5%Y – 575Y/332 | 14 | B | C | D | D | F | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | T | U | V | V |
| 27 | 230V±5%Y – 415Y/240 | 14 | A | B | C | D | D | E | F | G | H | H | J | K | L | M | N | O | O | Q | R | S | S | T | T | U |
| 31 | 380V±5%Y – 208Y/120 | 13 | A | B | C | D | D | E | F | G | H | H | J | K | L | M | N | O | O | Q | R | S | T | T | T | U |
| 32 | 380V±5%Y – 230Y/133 | 13 | A | B | B | C | D | E | F | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | T | T |
| 34 | 380V±5%Y – 460Y/266 | 14 | A | A | A | B | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | Q |
| 35 | 380V±5%Y – 575Y/332 | 14 | A | B | B | C | D | D | E | F | G | E | F | J | K | L | N | N | P | Q | R | R | P | S | T | T |
| 37 | 380V±5%Y – 415Y/240 | 14 | A | A | A | A | A | B | B | C | C | D | D | E | F | G | G | I | I | K | L | M | M | N | N | O |
| 41 | 460V±5%Y – 208Y/120 | 13 | B | C | C | D | E | F | G | G | H | I | J | L | M | N | N | O | P | R | S | T | T | U | U | V |
| 42 | 460V±5%Y – 230Y/133 | 13 | B | B | C | D | E | F | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | T | U | U |
| 43 | 460V±5%Y – 380Y/220 | 13 | A | A | A | B | B | C | C | D | E | E | F | G | H | I | J | K | L | M | N | O | P | P | Q | Q |
| 44 | 460V±5%Y – 575Y/332 | 14 | A | A | A | B | B | C | D | D | E | F | G | G | I | I | J | K | L | N | N | O | P | Q | Q | R |
| 47 | 460V±5%Y – 415Y/240 | 13 | A | A | A | A | A | B | B | C | D | D | D | F | F | G | H | I | J | K | L | M | N | O | O | O |
| 51 | 575V±5%Y – 208Y/120 | 13 | B | C | D | D | F | G | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | U | V | W |
| 52 | 575V±5%Y – 230Y/133 | 13 | B | C | D | D | F | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | T | U | V | V |
| 53 | 575V±5%Y – 380Y/220 | 13 | A | B | B | C | D | D | E | F | G | G | H | J | J | K | L | N | N | P | Q | R | R | S | T | T |
| 54 | 575V±5%Y – 460Y/266 | 13 | A | A | A | B | B | C | D | D | E | F | G | G | H | I | J | K | L | N | N | O | P | Q | Q | R |
| 57 | 575V±5%Y – 415Y/240 | 13 | A | A | B | B | C | D | D | E | F | G | G | I | J | K | L | M | N | O | P | Q | Q | R | S | S |
| 71 | 415V±5%Y – 208Y/120 | 13 | B | B | C | D | E | F | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | T | U | U |
| 72 | 415V±5%Y – 230Y/133 | 13 | A | B | C | D | D | E | F | G | H | H | I | K | L | M | N | O | O | Q | R | S | S | T | T | U |
| 73 | 415V±5%Y – 380Y/220 | 13 | A | A | A | A | A | B | B | B | C | D | D | E | F | G | G | H | I | K | L | M | M | N | N | O |
| 74 | 415V±5%Y – 460Y/266 | 14 | A | A | A | A | A | B | B | C | D | D | E | F | F | G | H | I | J | K | L | M | N | N | O | O |
| 75 | 415V±5%Y – 575Y/332 | 14 | A | A | B | B | C | D | D | E | F | G | G | I | J | K | L | M | N | O | P | Q | Q | R | S | S |

| APAT SERIES WIRING CONNECTIONS | | | | | | | | | |
|--------------------------------|-----------------|------------|-----------------|---------------|-----------------|------------|-----------------|--|--|
| 13 | LINE CONNECTION | LINE VOLTS | LOAD CONNECTION | 14 | LINE CONNECTION | LINE VOLTS | LOAD CONNECTION | | |
| | H7-H8-H9 | 95% | | | X7-X8-X9 | 95% | | | |
| | H4-H5-H6 | 100% | X1-X2-X3 | | X4-X5-X6 | 100% | H1-H2-H3 | | |
| | H1-H2-H3 | 105% | X0=NEUTRAL | | X1-X2-X3 | 105% | H0=NEUTRAL | | |
| | H0=NEUTRAL | | | | X0=NEUTRAL | | | | |
| | | | | | | | | | |



| ENCLOSURE DIMENSIONS | | | | | |
|----------------------|-------------------------|----|----|----------|--------|
| STYLE | H | W | D | MOUNTING | |
| | | | | A | B |
| 1 | 10 1/2 | X | X | 12 1/2 | X |
| 1 | 11 5/8 | X | X | 13 5/8 | X |
| 1 | 13 | X | X | 15 | X |
| 2 | SEE ENCLOSURE DRAWING 2 | | | | |
| 3 | 33 | 24 | 20 | 22 | 17 1/2 |
| 3 | 39 | 30 | 20 | 28 | 17 1/2 |
| 3 | 43 | 36 | 26 | 34 | 23 1/2 |
| 3 | 48 | 48 | 32 | 46 | 29 1/2 |
| 3 | 60 | 54 | 40 | 52 | 37 1/2 |
| 4 | 54 | 60 | 40 | 28 | 42 |
| 4 | 72 | 68 | 48 | 34 | 55 |