# NEW YORK STATE DEPARTMENT OF PUBLIC SERVICE

# APPROVED METER LIST

Rev. 11/25/2015

# WATTHOUR METERS

***DUNCAN/LANDIS + GYR/SIEMENS***

| TYPE | CLASS | VOLTS | WIRE | APPROVED | TESTING ENTITY | APPROVAL SUBMITTED | REVIEW |
|---|---|---|---|---|---|---|---|
| FOCUS/Focus ALF | 10,20,100 | | | | | | |
| FOCUS E130 | 200,320,480 | 120/240 | 3 | 03-16-05 | L+G | 05-4-04 | |
| FOCUS/Hunt ERT | 10,20,100 | | | | | | |
| | 200,320,480 | 120/240 | 3 | 10-19-05 | L+G | 09-13-05 | |
| FOCUS AX and SD | 10,20,100,200 | 120/240/277 | 3-4 | 07-15-10 | N'GRID | 11-9-09 | |
| FOCUS AX/METRUM CARD | 10,20,100,200 | 120/240/277 | 3-4 | 02-23-13 | CNTRL HUD | 04-16-13 | |
| FOCUS E330, E350 | 320 | | | | | | |
| MKS | 200 | 240 | 3 | 08-04-59 | L.I.L. | | |
| MH-IS | 60 | 120 | 3 | 12-28-60 (No Test) | Con-Ed | 09-28-60 | |
| MQAT-MQST | 10 | 120/240/480 | 2-3 | 12-28-60 | L.I.L. | 10-14-60 | |
| MQA-MQS | 100 | 120/240/480 | 2-3 | | | | |
| MQA-MQS | 100 | 120/240 | 2-3 | | | | |
| MQA-MQS | 200 | 240/480 | 3 | | | | |
| ML2S | 100 | 120/240/480 | 3 | 03-11-60 | Con-Ed | | |
| ML2 1/2 S | 100 | 120/240 | 4 | 03-11-60 | | | |
| ML2S-delta | 100 | 240 | 4 | 03-11-60 | | | |
| MR-IS | 60 | 120 | 3 | 01-15-63 | Con-Ed | | |
| MS | 200 | 240 | 3 | 05-05-70 | L.I.L. | | |
| MT | 10,20,100,200 | 120/480 | 3-4 | 07-31-73 | N.M.P. | 04-18-73 | |
| MSII | 200 | 240 | 3 | 03-06-79 | L.I.L. | 01-16-79 | |
| MS-2SE | 320 | 240 | 3 | 03-09-82 | L.I.L. | 06-01-81 | |
| MT-12SE | 320 | 120/240 | 3 | 03-09-82 | L.I.L. | 06-01-81 | |
| MT-16SE | 320 | 120/277 | 4 | 09-22-83 | N.M.P. | 02-04-83 | |
| MTNS12S | | 120 | 3 | 12-13-83 | Con-Ed | 06-15-83 | |
| SSM | 20 | 120/240/277 | 3-4 | 09-20-89 | N.M.P. | 05-15-89 | |
| SSM-II | Solid State Watthour Meter | | | 10-19-93 | L.I.L | | |
| MX-2S | 200 | 240 | 2 | 03-01-95 | RG&E | 04-27-94 | |
| S4 | Solid State Watthour Meter | | | 01-13-97 | NMP | 08-08-96 | |
| S4e | Solid State Watthour Meter firmware upgrades | | | | N'Grid | 06-02-04 | |
| S4/S4e | Metrum Communication Module | | | 09-27-10 | N'Grid | 09-13-10 | |
| E650 | | | | | | | |

# WATTHOUR METERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Altimus AL | Electronic Meter-Network | 120/208 | 3 | 08-03-99 | Con-Ed | 05-17-99 | |
| MAXsys 2410 | 20 | 120/240/277/480 | 3-4 | 06-01-01 | NMPC | 02-09-01 | |
| MAXsys 2510 | 20 | 120/240/277/480 | 3-4 | 06-01-01 | NMPC | 02-09-01 | |
| MAXsys 2510 | 2, 10 | 120/240/277/480 | 3-4 | 04-07-05 | NMPC | 03-13-05 | |
| MAXsys Elite | 2,10,20 | 120/240/277/480 | 3-4 | 06-23-08 | L+G | 5-30-08 | |
| | | ***Electro Industries*** | | | | | |
| Nexus 1260/1262 1270/1272 | 20 | 120-480 | 3-4 | 11/25/03 | Electro Ind. | 8/11/03 | NMPC-LOI |

# WATTHOUR METERS

***GENERAL ELECTRIC***

| TYPE | CLASS | VOLTS | WIRE | APPROVED | TESTING ENTITY | APPROVAL SUBMITTED | REVIEW |
|---|---|---|---|---|---|---|---|
| DS-63 Swbd | 10 | 120/240 | 3 | | | | |
| DS-65 Swbd | 10 | 120/240 | 4 | | | | |
| DS-66 Swbd | 10 | 240 | 4 | | | | |
| DS-67 | 10 | 120/240/480 | 3 | 01-07-75 | CHG&E | | |
| EV@ | electronic Polyphase Meter with M-90E for demand | | | 05-08-91 | N.M.P. | 11-30-90 | 08/26/93 |
| EV | extension of EV line to include EV-7, 3 element form 17S, self-contained, and 9S, transformer rated for 120/240v delta services | | | 10-08-93 | N.M.P. | | |
| EV2 | extension of EV line to include Class 3 transformer rated and Class 320 self-contained | | | 10-08-93 | N.M.P. | | |
| EV/ES | Electronic Single Phase and Polyphase Meter for watthour and Varhours with Phase 3 Registers:<br>KM-901 - Demand<br>KTC-901 - Demand, T.O.U.<br>KRC-901 - Demand, T.O.U., Load Profile | | | 08-22-92 | N.M.P. | | 08/26/93 |
| I63-S | 60 | 208 | 3 | 04-28-60 | Con-Ed | | |
| I-60S Modified | 200 | 240 | 3 | 01-15-63 | N.M.P. | 12-26-62 | |
| I-70A | 200 | 240 | 3 | 10-13-88 | LILCO | 10-03-88 | |
| I-70S+ | 200 | 240 | 3 | 03-26-68 | N.M.P. | | 03-10-00 |
| I-70 S/2+ | 200 | 240 | 3 | 12-04-73 | N.M.P. | | 03-10-00 |
| I-70S | 320 | 240 | 3 | 03-09-82 | L.I.L. | 06-01-81 | |
| I-70S | 10 | 120/240 | 2/3 | 08-11-82 | N.M.P. | | |
| IR-70 | all | 120/240 | 3 | 10-14-86 | NYSEG | 04-07-86 | |
| I-210 | 20,100,200,320 | 120/240 | 3 | 2/9/05 | GE | 10-19-04 | |
| I-210 Hunt Airpoint | 200 | 240 | 3 | 1/5/11 | GE | 12-15-10 | |
| I-210+(C)(N) | 20,100,200,320 | 120/240 | 3 | 6/18/08 | GE | 12-17-08 | |
| I-210+ (C)(N) | 20,100,200,320 | 120/240 | 3 | 5/11/09 | Con Ed/GE | 4/27/09 | 5/5/09 |
| I-210/Itron 52ESS | 20,100,200,320 | 120/240 | 3 | 6/18/09 | CenHud | 6/4/09 | 6/15/09 |

**@Modified current sensor on transformer rated meters only.**
**+Modified current coil on self contained meters only.**

# WATTHOUR METERS

***GENERAL ELECTRIC***

| TYPE | CLASS | VOLTS | WIRE | APPROVED | TESTING ENTITY | APPROVAL SUBMITTED | REVIEW |
|---|---|---|---|---|---|---|---|
| KM-901 | Enhanced application for KQh/KQ, | | | 10-08-93 | N.M.P. | | |
| KTC-901 | varhour calibration check LED, HV4 | | | | | | |
| KRC-901 | form C and A output option board | | | | | | |
| | and communications option board | | | | | | |
| V-61-S | 60 | 120 | 3 | 02-14-61 | Con-Ed | | |
| V-611S | 60 | 120 | 3 | 05-26-64 | Con-Ed | 04-20-64 | |
| V-612S+ | 100 | 120 | 3 | 05-11-66 | N.M.P. | 04-14-66 | 08-27-93 |
| V-612S+ | 200 | 120 | 3 | 09-15-70 | Con-Ed | 02-17-70 | 08-27-93 |
| V-62+ | 100 | 120/240/480 | 3 | 04-12-60 | N.M.P. | | 08-27-93 |
| V-62+ | 200 | 120/240/480 | 3 | 04-12-60 | N.M.P. | | 08-27-93 |
| V-63# | 10 | 120/240 | 3 | | | | 07-08-91 |
| V-63+ | 100 | 120/240 | 3 | 04-12-60 | N.M.P. | | 08-27-93 |
| V-63+ | 200 | 120/240 | 3 | 04-12-60 | N.M.P. | | 08-27-93 |
| V-63-2A# | 10-20 | 120/240 | 3 | 01-21-69 | N.M.P. | 11-13-68 | 07-08-91 |
| V-63# | 20 | 120/480 | 3 | 03-12-74 | N.M.P. | | 07-08-91 |
| V-64* | 10 | 120/240 | 4 | 03-19-65 | N.M.P. | | 08-27-90 |
| V-64* | 20 | 120/240 | 4 | 03-19-65 | N.M.P. | | 08-27-90 |
| V-64+ | 100 | 120/240 | 4 | 03-19-65 | N.M.P. | | 08-27-93 |
| V-64+ | 200 | 120/240 | 4 | 03-19-65 | N.M.P. | | 08-27-93 |
| V-64-2A* | 10-20 | 120/240 | 4 | 01-21-69 | N.M.P. | 11-13-68 | 08-27-90 |
| V-64* | 17 | 120/240 | 4 | Not approved-modified | | | |
| | | | | to class 20 capability | | | 08-27-90 |
| V-64* | 20 | 120/240 | 4 | 08-31-79 | RG&E | | 08-27-90 |
| V-65-2A# | 10-20 | 120/240 | 4 | 01-21-69 | N.M.P. | 11-13-68 | 07-08-91 |
| V-65# | 10 | 120/240 | 4 | | | | 07-08-91 |
| V-65+ | 100 | 120/240 | 4 | 04-12-60 | N.M.P. | | 08-27-93 |
| V-65+ | 200 | 120/240 | 4 | 04-12-60 | N.M.P. | | 08-27-93 |

**+Modified current coil on self contained meters only.**
**#Replacement with Metal Oxide Varistor surge protection.**
***Addition of a tertiary winding on the voltage coil.**

# WATTHOUR METERS

## *GENERAL ELECTRIC*

| TYPE | CLASS | VOLTS | WIRE | APPROVED | TESTING ENTITY | APPROVAL SUBMITTED | REVIEW |
|---|---|---|---|---|---|---|---|
| V-65# | 20 | 120/240 | 4Y | 03-12-74 | N.M.P. | | 07-08-91 |
| V-65S+ Modified | 200 | 120/240 | 4 | | N.M.P. | 08-15-80 | 08-27-93 |
| V-66# | 10 | 240 | 4 | | | | 07-08-91 |
| V-66+ | 100 | 240 | 4 | 04-12-60 | N.M.P. | | 08-27-93 |
| V-66# | 20 | 240 | 4D | 03-12-74 | N.M.P. | | 07-08-91 |
| V-66S+ Modified | 200 | 240 | 4 | | N.M.P. | 08-15-80 | 08-27-93 |
| V-66S-A+ | 200 | 240 | 4 | 09-27-60 | N.M.P. (No Test) | 05-19-60 | 08-27-93 |
| V-67# | 10 | 240 | 4 | 03-19-65 | N.M.P. | | 07-08-91 |
| KV@ | 20, 200, 320 | 120-480 | 3-4 | 08-07-97 | N.M.P. | 02-04-97 | 01-29-98 |
| kVs (Single-Phase) | 200 | 120/240 | 3 | 09-20-99 | N.M.P. | | |
| kVe (Energy Only) | 20, 200, 320 | 120-480 | 3-4 | 09-20-99 | N.M.P. | | |
| kV2 | 20, 200, 320 | 120-480 | 3-4 | 11/22/01 | GE | 08-09-01 | CHGE-LOI |
| kV2c(Encompass) | 20, 200, 320 | 120-480 | 3-4 | 11/25/03 | GE | 08/12/03 | CHGE-LOI |
| KV2c Silver Spring | 20, 200, 320 | 120-480 | 3-4 | 5/11/09 | Con Ed/GE | 04/27/09 | 5/5/09 |
| kV2c Silver Spring 311, 314 -25S Enhanced Power Supply | | | | 6/17/11 | GE | 11/20/11 | |
| kV2c Trilliant module Cell Reader CRDR-1010 | 20, 200, 300 | 120-480 | 3-4 | 6/30/14 | Con Ed | 1/2014 | |

## *INVENSYS*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| iCon iSO1,iSA1 iNO1,iNA1 | 200 | 240,120/208 | 3 | 09/17/03 | INVENSYS | 06/09/03 | NG- LOI |

## *POWER MEASUREMENT*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ION 8300,8400,8500 | 20 | 57-277 120-480 | 4 | 12/18/02 | POWER MEASUREMENT | 08/15/02 | eBid-LOI |
| ION 8600 Modified | 2, 20 | 120-480 | 4 | 10/12/05 | POWER MEASUREMENT | 9/10/05 | |
| ION 7550/7650 Modified | 2,10,20 | 120-480 | 4 | 4/8/05 | POWER MEASUREMENT | 02/10/05 | |

**+ Modified current coil on self contained meters only.**

# WATTHOUR METERS

**# Replacement with Metal Oxide Varistor surge protection.**
*** Addition of a tertiary winding on the voltage coil.**
**@ Includes A-base Configuration**

***SCHNEIDER ELECTRIC***

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ION 8650 | 2,10,20 | 120-480 | 4 | 4/19/12 | Schneider Electric | 10/20/12 | |

***PROCESS SYSTEMS***

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Quad 4 Plus | 20 | 69-277 | 4 | 04-17-96 | NYSEG | 07-13-95 | |

***SANGAMO/SCHLUMBERGER***

| TYPE | CLASS | VOLTS | WIRE | APPROVED | TESTING ENTITY | APPROVAL SUBMITTED | REVIEW |
|---|---|---|---|---|---|---|---|
| P2 | 60 | 120/240/480 | 3 | 05-24-60 | RG&E | 04-27-60 | |
| P2 | 100 | 120/240/480 | 3 | | | | |
| P2 | 200 | 120/240/480 | 3 | | | | |
| P2P | 10 | 120/240/480 | 3 | | | | |
| P2P | 100 | 120/240/480 | 3 | | | | |
| P2P | 200 | 120/240/480 | 3 | | | | |
| P2 Delta | 10 | 240 | 4 | | | | |
| P2 Delta | 100 | 240 | 4 | | | | |
| P2 Delta | 200 | 240 | 4 | | | | |
| P2 Wye | 10 | 120/240 | 4 | | | | |
| P2 Wye | 100 | 120/240 | 4 | | | | |
| P2 Wye | 200 | 120/240 | 4 | | | | |
| P20S-P20A | 100 | 120/240/480 | 3 | 12-13-60 | RG&E (No Test) | 11-18-60 | |
| P20SP-P20AP | 100 | 120/240/480 | 3 | | | | |
| P20S-P20A | 200 | 120/240/480 | 3 | | | | |
| P20SP-P20AP | 200 | 120/240/480 | 3 | | | | |
| P20SP-P20AP | 10 | 120/240/480 | 3 | | | | |
| P20S-P20A Delta | 100 | 240 | 4 | | | | |
| P20S-P20A Delta | 200 | 240 | 4 | | | | |
| P20S-P20A Delta | 10 | 240 | 4 | | | | |

# WATTHOUR METERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P20S-P20A Wye | 10 | 120/240 | 4 | | | | |
| P20S-P20A Wye | 100 | 120/240 | 4 | | | | |
| P20S-P20A Wye | 200 | 120/240 | 4 | | | | |
| J3S-J3A | 10,100 | 120 | 2 | 12-28-60 | RG&E | 11-16-60 | |
| J3S-J3A | 10 | 240 | 2 | | | | |
| J3S-J3A | 10,100,200 | 240 | 3 | | | | |
| J3S-J3A | 10,100,200 | 480 | 2 | | | | |
| J3F-Switchboard | 10,100,200 | 120/240/480 | 2-3 | | | | |
| J3V-Two Rate | 100,200 | 240 | 2-3 | | | | |

***SANGAMO/SCHLUMBERGER/Itron***

| TYPE | CLASS | VOLTS | WIRE | APPROVED | TESTING ENTITY | APPROVAL SUBMITTED | REVIEW |
|---|---|---|---|---|---|---|---|
| P20S | 60 | 120 | 3 | 06-13-62 | Con-Ed | | |
| JNS-1 | 60 | 120 | 3 | 07-17-62 | Con-Ed | | |
| P20S Urban | 100 | 120 | 3 | 06-09-66 | Con-Ed | 04-04-66 | |
| Ed Transmitter and Transformer | | 120/240 | | 07-16-68 | Con-Ed | | |
| ED Receiver | 12 | | | 07-16-68 | Con-Ed | | |
| J4S | 200 | 240 | 3 | 06-02-71 | N.M.P. | | |
| S2S, S2A | 100,200 | | 3 | 03-14-72 | RG&E | | |
| S3S, S3A | 10,20,100,200 | | 3 | 03-14-72 | RG&E | | |
| S11S | 60 | | 3 | 03-14-72 | RG&E | | |
| S12S | 100/200 Urban | | 3 | 03-14-72 | RG&E | | |
| S5S, S5A | 10,20,100,200 | | 4 Wye | 03-14-72 | RG&E | | |
| S6S, S6A | 10,20,100,200 | | 4 Delta | 03-14-72 | RG&E | | |
| S4S, S4A | 10,20,100,200 | | 4 Wye | 03-14-72 | RG&E | | |
| S5 (changed) | 2.5 Stator | | 4 Wye | 05-18-84 | RG&E | 05-03-84 | |
| S3F | 10 | | 3 | 03-14-72 | RG&E | | |
| S5F | 10 | | 4 Wye | 03-14-72 | RG&E | | |
| S6F | 10 | | 4 Wye | 03-14-72 | RG&E | | |
| S4F | 10 | | 4 Wye | 03-14-72 | RG&E | | |
| J11S Network | 60 | 120 | 3 | | O & R | 03-29-77 | |
| J12S Network | 100 | 120 | 3 | | O & R | 03-29-77 | |
| J12S2 Network | 100 | 120 | 3 | 02-17-93 | O & R | 10-23-93 | |
| J4SMT | 200 | 240 | 3 | 09-24-80 | O & R | | |
| J5S | 100,200 | 240 | 3 | 09-05-85 | NMP | 12-06-82 | |
| J5S1 | 200 | 240 | 3 | 03-12-93 | NMP | 01-21-93 | |

# WATTHOUR METERS

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|---|---|---|---|---|---|---|---|
| J5S2 | 200 | 240 | 3 | 03-12-93 | NMP | 01-21-93 | |
| SL | | | | 03-28-89 | L.I.L. | 11-29-88 | |
| FULCRUM | Multi-Function Solid State Watt-hour Meter | | | 08-29-95 | NMP | 08-01-94 | |
| VECTRON | Multi-Function Solid State Watt-hour Meter | | | 04-17-96 | NYSEG | 07-13-95 | |
| QUANTUM | Multi-Function Solid State Watt-hour Meter | | | 05-17-96 | L.I.L. | 06-06-95 | |
| VECTRON SVX* | Solid State Meter | | | 09-04-97 | L.I.L. | 02-20-97 | 06-10-98 |
| CENTRON (C1S) | 20,100,200,320 | 120/240 | 3 | 05-26-00 | RG&E | | |
| CENTRON (C12/25S) | 20,100,200,320 | 120/208 | 3 | 02-01-01 | Con-Ed | | |
| CENTRON (C1S) | 20,100,200,320 | 120/240 | 3 | 08-30-02 | RGE | 04-29-02 | |
| CENTRON (C1SR) | 20,100,200,320 | 120/208/240 | 3 | 05-17-05 | Itron Inc | 03-29-05 | |
| CENTRON (C1BR) | 20,100,200,320 | 120/208/240 | 2/3 | 11/21/07 | Itron Inc | 11-09-07 | |
| SENTINEL | Multimeasurement Electricity Meter Line | | | 11-04-02 | Schlumberger | 07-22-02 | |
| SENTINEL | Metrum UtiliWise ECM-SC | | | 11-20-11 | Itron Inc | 9/23/11 | |
| SENTINEL | Trilliant CRDR -1010-SENT-c | | | 11-20-11 | Itron Inc | 9/23/11 | |
| SENTINEL | Types SS4S1L, SS4S2L, SS4S4L, SS4S1T, SS4S2T | | W/ETHERNET | 3-16-12 | Itron Inc | 2/8/12 | |
| CENTRON | POLY-PHASE Meter Line C & I platform (CP1S, CP1SR, C1SR, CP1ST, CP1SL) | | 3 | 07-19-06 | Itron Inc | 04-07-06 | |
| *Revision 11PCB (Vectron) | | | | | | | |
| CENTRON – Open Way | 20,100,200,320 | 120/208/240 | 2/3 | 10-14-10 | Itron Inc | 12-22-09 | |
| CENTRON Open Way HW 3.0 100, 200 | | 120/240 | 2/3 | 12-5-10 | Itron Inc | 12-15-10 | |
| CENTRON – Polyphase A-based with KYZ | | 120/240 | 3 | 12-10-10 | Itron Inc | 1-10-11 | |
| CENTRON – Knighthawk technology Form 2S | | 120/240 | 3 | 3-16-12 | Itron Inc | 6-13-11 | |

***SENSUS***

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| APX | 20, 200 | 120/240/277/480 | 4 | 06-20-07 | N'GRID | 11-21-06 | |

***WESTINGHOUSE/ABB/ELSTER***

| TYPE | CLASS | VOLTS | WIRE | APPROVED | TESTING ENTITY | APPROVAL SUBMITTED | REVIEW |
|---|---|---|---|---|---|---|---|
| D2A-D2S | 10,100 | 120/240/480 | 2-3 | 06-14-60 | Con-Ed | 05-19-60 | |
| D2A-D2S | 100 | 120/240 | 2-3 | 06-14-60 | | | |
| D2S | 200 | 120/240 | 2-3 | 06-14-60 | | | |
| D2A & D2S | All | All | 3-4 | 03-26-63 | Con-Ed | | |
| D2B-8F | 10 | 120/240 | 4 Wye | 02-06-68 | Long Island | | |
| D2S 5U | 200 | 120 | 3 | 12-01-70 | Con-Ed | | |

# WATTHOUR METERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D3S | 10,100,200 | 120/240 | 2-3 | 03-26-63 | Con-Ed | 02-26-63 | |
| D3SN | 60 | 120 | 3 | 06-27-68 | Con-Ed | | |
| D4S | 200 | 120/240 | 2-3 | 07-16-68 | RG&E | 05-24-68 | |
| D4 Polyphase | All | All | 3-4 | 02-06-73 | RG&E | 11-28-72 | |
| D4S 5U | 60,100,200 | 120 | 3 | 03-12-74 | Con-Ed | 12-11-73 | |
| D4S Modified | 200 | 120/240 | 2-3 | 07-31-80 | RG&E | 07-24-80 | |
| D4S Modified Polyphase | All | All | 3-4 | 03-22-83 | RG&E | 10-13-81 | |
| D4S | 320 | 240 | 3 | 03-09-82 | L.I.L. | 06-01-81 | |
| D5S Single Phase | 200 | 120/240 | 3 | 06-15-83 | O & R | 12-14-82 | |
| D5S-5N | | | | | Con-Ed | 03-20-88 | |
| AB1R/D5 | 200 | 240 | 3 | 4/11/05 | Elster | 01-26-05 | |
| RK-2 | 2.5,5 | 120 | 3 | 12-28-60 | O & R | 09-27-60 | |
| RK-3 | 2.5,5 | 120 | 4 | 12-28-60 | | | |
| CBF | 10 | 120/240/480 | 2-3-4-6-8 | 07-18-61 | NYSEG | | |
| D5 | All | All | 3-4 | 11-05-87 | RG&E | 07-29-87 | 07-09-90 |
| D5S/1* | 200 | 120/240 | 3 | 12-20-88 | O & R | 08-29-88 | 05-11-90 |
| D5S/2 | 200 | 120/240 | 3 | 09-11-92 | O & R | 08-31-92 | |
| Alpha | 20,200,320 | 96 - 528 | 3-4 | 06-30-95 | Con-Ed | 07-07-94 | |
| Alpha Plus # | 20,200,320 | 96-528 | 3-4 | 03-30-98 | Con-Ed | 02-06-98 | |
| Alpha Plus # | 20,200,320 | 96-528 | 3-4 | 03-30-98 | Con-Ed | | |
| Alpha | 20,200,320 | 96-528 | 3-4 | 07-16-98 | NYSEG | 12-02-97 | |
| Alpha Plus modified | 20,200,320 | ALL | 3-4 | 02-16-05 | Elster | 02-04-05 | |
| ABB/ION 8300,8400,8500 | 20 | 57-277<br>120-480 | 4 | 12-18-02 | POWER MEASUREMENT | 8-15-02 | eBid-LOI |
| A3 Alpha # | 20,200,320 | 120 480 | 3-4 | 02-12-03 | ELSTER | 12-9-02 | |
| A3 Alpha # (with Itron 50ESS ERT) | | | | | | | |

- **Approved on the basis of similarity (elimination of an aluminum shield)**

**# Approved on the basis of similarity**

***WESTINGHOUSE/ABB/ELSTER***

| TYPE | CLASS | VOLTS | WIRE | APPROVED | TESTING ENTITY | APPROVAL SUBMITTED | REVIEW |
|---|---|---|---|---|---|---|---|
| REX | Electronic | 120/240 | 3 | 6-20-05 | Elster | 12-27-05 | |

***SCIENTIFIC COLUMBUS INC./ AMETEK***

# WATTHOUR METERS

| | | | | | | |
|---|---|---|---|---|---|---|
| JEM-I | | | | 06-30-82 | N.M.P. | |
| 6406 | Electronic Solid State | DC | | 06-26-85 | Con-Ed | 10-16-84 |
| 202P-D | Electronic | 25HZ | | 04-10-86 | Con-Ed | 09-09-85 |
| JEM-II | Electronic | | | 04-05-88 | Con-Ed | 12-01-88 |
| JEMStar | Electronic | 55-530VAC | 3-4 | 11-22-01 | Con-Ed | 08-13-01 |
| Ci20 | Electronic | 55-530 | 3-4 | 11/21/05 | AMETEK | 11-07-05 |

***ROBINTON PRODUCTS***

| | | | | | | |
|---|---|---|---|---|---|---|
| K&L Intellimeter | Solid State | | | 06-13-86 | Con-Ed | 02-04-86 |

***TEMPO***

| | | | | | | |
|---|---|---|---|---|---|---|
| 36DD007 | Electronic DC Watthour Meter | | | 05-14-93 | Con-Ed | |

***TRANSDATA***

| | | | | | | |
|---|---|---|---|---|---|---|
| Mark V | Multifunction Solid State Watthour Meter | | | 10-01-96 | N.M.P. | 10-01-95 |

# CONTACT DEVICES

| TYPE | WIRE | DATE | TESTING ENTITY |
|---|---|---|---|
| ***GENERAL ELECTRIC*** | | | |
| D-41 Impulse Generator | 3 | 02-26-63 | N.M.P. |
| D-51 Impulse Generator | 3 | 02-17-70 | L.I.L. |
| D-52 Impulse Generator | 3 | 07-17-73 | N.M.P. |
| D-53 Impulse Generator | 3 | 12-22-75 | Con-Ed |
| D-72 Pulse Initiator | 3 | 09-26-83 | N.M.P. |
| D-73 Pulse Initiator | 3 | 09-26-83 | N.M.P. |
| MR-3 Isolation Relay | 3W in, 2-3W out | 07-17-73 | N.M.P. |
| ***SANGAMO/SCHLUMBERGER*** | | | |
| MPS Pulse Generator | 3 | 10-19-71 | RG&E |
| SPI Pulse Initiator | 3 | 01-24-80 | RG&E |
| EPI Pulse Initiator | | 03-28-89 | L.I.L. |
| ***WESTINGHOUSE/ABB*** | | | |
| CD-11 Photo Pulse Initiator | 3 | 03-07-69 | Con-Ed |
| CD-21 Photo Pulse Initiator | 3 | | |
| CDI-12 Photoelectric Pulse Initiator 12 A & B | 3 | 03-18-75 | RG&E |
| CDI-22 AR, 22 A & B | 3 | 03-18-75 | RG&E |
| ***DUNCAN/LANDIS & GYR*** | | | |
| PG-6MT, PG-6 MTL | 3 | 07-17-73 | N.M.P. |
| PG-6MS, PG-6 MSL | 3 | 07-17-73 | N.M.P. |
| SPG-8 Electronic Pulse Generator | | 04-06-82 | O & R |
| ***PROCESS SYSTEMS, INC*** | | | |
| Sentry 30 Isolation Relay | 3 | 07-14-82 | RG&E |
| Sentry Isolation Relays Models 30-E, 50, 70 | | 08-30-06 | RG&E |

# PHASE-SHIFTING TRANSFORMERS

## *GENERAL ELECTRIC*

| TYPE | VOLTAGE | CIRCUIT | DATE | TESTING ENTITY |
|---|---|---|---|---|
| MC-63 | 120/240 | 30-3W | 02-28-60 | L.I.L. |
| | 240/240 | 30-3W | | |
| MC-65 | 120/120 | 30-4W Wye | | |
| | 240/277:240/277 | 30-4W Wye | | |
| MC-67 | 240/240 | 30-4W Delta | | |

## *SUPERIOR SWITCHBOARD AND DEVICES*

| | | | | |
|---|---|---|---|---|
| 1391 | 120/240 | 30-3W Delta | 10-21-59 | NYSE&G |
| 1397 | 240 | 30-4W Delta | | |
| 1415 | 120 | 30-4W Wye | | |
| 1392 | 240 | 30-4W Delta | 08-01-72 | NYSE&G |
| 1395 | 120 | 30-4W Wye | | |

# REGISTERS

## *GENERAL ELECTRIC*

| TYPE | SCALE | VOLTAGE | DATE | TESTING ENTITY | REVIEW |
|---|---|---|---|---|---|
| M-51 | 1, 2, and 6 | 120,240,480 | 09-01-70 | N.M.P. | |
| T-76 | TOU | | 02-20-79 | L.I.L. | |
| TM-80 | TOU, Demand | | 12-16-80 | O & R | |
| TM-80P | TOU | | 06-09-82 | N.M.P. | |
| TM80/1 | TOU, Demand | | 01-00-85 | N.M.P. | |
| TM80/P/1 | TOU, Demand | | 01-00-85 | N.M.P. | |
| M51/1(T) | 1, 2, and 6 | Con-Ed Pat. Pend. | 05-23-83 | Con-Ed | |
| TM-81 | TOU, Demand | | 09-14-84 | RG&E | |
| M-90 | Demand | | 04-24-85 | NYSEG | |
| TMR-82 | TOU, Demand, Load Profile | | 09-15-85 | O & R | |
| T-90* | TOU | | 09-24-86 | L.I.L. | 5/14/93 |
| TM-91 | TOU, Demand | | 02-24-88 | RG&E | |
| M-90-P | Demand | | 07-08-88 | N.M.P. | |
| TM-91-P | TOU, Demand | | 11-14-88 | N.M.P. | |
| TMR-92 | TOU, Demand, Load Profile | | 03-28-89 | O & R | |
| TM-900 | TOU | | 09-19-90 | L.I.L. | |
| TMR-900 | TOU, Demand, Load Profile | | 06-13-91 | L.I.L. | |
| M-90E | Demand (EV Polyphase Meter) | | 05-08-91 | N.M.P. | |
| KM-901 | Demand (EV 1P & 3P watt-hours, var-hours) | | 08-22-92 | N.M.P. | |
| KTC-901** | Demand, TOU (EV 1P & 3P watt-hours, varhours) | | 08-22-92 | N.M.P. | 06/10/94 |
| KRC-901** | Demand, TOU, Load Profile (EV 1P & 3P Watt-hours, varhours) | | 08-22-92 | N.M.P. | 06/10/94 |
| M-90AE*** | Electronic demand register for EV line | | 10-08-93 | N.M.P. | 07/12/95 |
| TM-900E | T.O.U. register for EV line | | 10-08-93 | N.M.P. | |
| TMR900E | T.O.U. recording register for EV line | | 10-08-93 | N.M.P. | |

* Logic board modification
** Internal telephone modem
*** Programming enhancement

# REGISTERS

## *SANGAMO/SCHLUMBERGER*

| TYPE | SCALE | VOLTAGE | DATE | TESTING ENTITY | REVIEW |
|---|---|---|---|---|---|
| CD | 1, 2, and 6 | 120/240 | 09-01-70 | Con Ed | |
| MCD-6,7&8 | Cumulative Demand | | 11-14-79 | Con Ed | |
| ED5 | Meter Dial Extension System | | 05-15-85 | Con Ed | |
| MTR-20 | | | 09-24-80 | O & R | |
| MTR-30 | | | 09-24-80 | O & R | |
| MTR-21C | | | 09-24-80 | O & R | |
| ST-D101 | Demand | | 01-13-88 | RG&E | 03-05-90 |
| ST-MT100 | TOU, Demand | | 05-23-88 | RG&E | 03-05-90 |
| ST-D101R | TOU, Demand | | 12-06-88 | RG&E | 03-05-90 |
| ST-MT100R | TOU, Demand | | 12-06-88 | RG&E | 03-05-90 |
| ST-DS120 | TOU, Demand, Load Profile | | | | |
| I200 | Encoded Register | | 11-13-91 | N.M.P. | |
| T200* | Encoded Register | | 08-25-93 | N.M.P. | 12-07-95 |
| T300* | Encoded Register w/ Modem | | 08-25-93 | N.M.P. | 12-07-95 |
| R200 | Itron ERT Encoder | | 05-17-95 | Con Ed | |
| D200** | Electronic Register, Demand | | 10-20-95 | RG&E | 06/25/96 |
| MT200** | Electronic Register, TOU w/Demand | | 10-20-95 | RG&E | 06/25/96 |
| MTR200** | Electronic Register, mass memory, TOU w/Demand | | 10-20-95 | RG&E | 06/25/96 |

## *WESTINGHOUSE/ABB*

| | | | | | |
|---|---|---|---|---|---|
| Mark II | 1, 2, and 6 | 120 | 05-26-64 | Con-Ed | |
| Mark II | 8 | 120 | 05-07-74 | RG&E | |
| EMF 2110 | Demand | | 09-06-88 | Con-Ed | 01-03-90 |
| EMF 2410 | TOU Register | | 09-05-90 | Con-Ed | |
| EMF 3410 | TOU Register (single phase only) | | 12-03-92 | | |

* Telephone Modem Interface
** LCD Modification

# REGISTERS

## *DUNCAN/LANDIS & GYR*

| TYPE | SCALE | VOLTAGE | DATE | TESTING ENTITY | REVIEW |
|---|---|---|---|---|---|
| Type B | 1, 2, and 6 | 120/240/277/480 | 07-17-73 | N.M.P. | |
| RTD | TOD | | 04-06-82 | O & R | |
| PDR | Demand | | 06-26-85 | N.M.P. | |
| PDR-J | Demand | | 01-13-88 | Con-Ed | |
| PDR-A | Demand | | 01-27-88 | N.M.P. | |
| DT | TOU | | 11-14-90 | L.I.L. | |
| DC | TOU, Demand | | 11-14-90 | L.I.L. | |
| DCR | TOU, Demand, Load Profile | | 11-14-90 | L.I.L. | |
| DX | TOU, Demand | | 09-16-93 | N.M.P. | |

## *DOMESTIC AUTOMATION*

| | | | | | |
|---|---|---|---|---|---|
| SM101 | | Electronic Register | 02-27-89 | NYSEG | |
| SM-3200 | | Solid State Multi-Function | 12-03-92 | RG&E | |

# DEMAND RECORDERS/TOTALIZERS

## *GENERAL ELECTRIC*

| TYPE | CHANNELS | COUNTS | VOLTAGE | DATE | TESTING ENTITY | REVIEW |
|---|---|---|---|---|---|---|
| PD55F | 1 | 999/Interval | 120 | 02-26-63 | N.M.P. | |
| PD57F | 1 | 999/Interval | 120 | | | |
| PDM-70 | 4 | 6000/Hour | 120 | 02-17-70 | L.I.L. | |
| SST-3 | 20 | 18/Second | 120 | 12-10-74 | N.M.P. | |
| | Solid State | | | | | |
| PDM-75 | 2 or 4 | 7200/Hour | 120/240/277 | 12-22-75 | Con-Ed | |
| PDM-76 | 2 or 4 | 7200/Hour | 120/240/277 | 12-22-75 | Con-Ed | |
| DR-87 | 1 to 4 | electronic | 120/240/277 | 09-06-88 | NYSEG | |
| DR-87/2 | 1 to 4 | electronic | 120/240/277 | 09-06-95 | NYSEG | |

## *SANGAMO/SCHLUMBERGER*

| | | | | | | |
|---|---|---|---|---|---|---|
| DPR 215,230,260 | 2 | 4095/Interval | 120 | 02-01-72 | RG&E | |
| DPR 415,430,460 | 4 | 4095/Interval | | | | |
| SR1 | 2 | 1800/our | 120/240 | 02-19-75 | RG&E | |
| MBR-90 | Solid State Recorder | | | 07-11-84 | RG&E | |
| ST-DS 101 | Solid State Recorder | | | 11-24-87 | O & R | |
| ST-DS 111 | Solid State Recorder | | | 11-24-87 | O & R | |

## *FERRANTI ELECTRIC, INC.*

| | | | | | | |
|---|---|---|---|---|---|---|
| CE MK II | Impulse Totalizer | | 120 | 06-16-70 | Con-Ed | |
| CE MK II | (Model R/C) | | | | | |

# DEMAND RECORDERS/TOTALIZERS

## *WESTINGHOUSE/ABB*

| TYPE | CHANNELS | COUNTS | VOLTAGE | DATE | TESTING ENTITY | REVIEW |
|---|---|---|---|---|---|---|
| WR-2 | 2 | 4000/Hour | 120/240 | 03-07-69 | Con-Ed | |
| WR-4 | 4 | 4000/Hour | 120/240 | | | |
| WR-2C | 1 | 6000/Hour | 120 | 02-03-70 | N.M.P. | |
| WR-4C | 3 | 6000/Hour | 120 | | | |
| Dem Pulse Relay and Master and Slave Pulse Syn. Circuit for WR-2C and WR-4C | | | | 02-03-70 | N.M.P. | |
| W-3 Isolation Relay | Con-Ed | 3 wire in, 2-3 wire out | | | | 03-07-69 |
| W-2 Interval Tripping Relay | Con-Ed | 2 wire in, 2-2 wire out | | | | 03-07-69 |
| W-4 Polarized Relay | | 2 wire in, 3 wire out | | 03-07-69 | Con-Ed | |
| W-5 Power Supply | 2 wire in, 3 wire out | | | 03-07-69 | Con-Ed | |
| WR-31 | 1, 2 or 4 | 6000/Hour | 120/240/277/480 | 06-21-77 | O & R | |

## *DUNCAN/LANDIS & GYR*

| | | | | | | |
|---|---|---|---|---|---|---|
| BTR | 2,4 | 6000/Hour | | 08-17-72 | Con-Ed | |
| STR | 2,4 | 7200/Hour | 120/240 | 01-06-77 | NYSEG | |

## *PROCESS SYSTEM, INC.*

| | | | | | | |
|---|---|---|---|---|---|---|
| Sentry 1540 | | | | 03-05-80 | Con-Ed | |
| Sentry 1545A Demand Pulse Totalizer | | | | 03-03-81 | Con-Ed | |
| Sentry 100 Solid State Recorder | | | | 08-10-82 | Con-Ed | |
| Sentry 210 Solid State Pulse Totalizer | | | | 01-12-83 | L.I.L. | |
| Sentry 1545B Totalizer | | | | 06-01-85 | Con-Ed | |
| Sentry S1610 Totalizer | | | | 05-03-88 | Con-Ed | |
| S200-EXP (DSUII) | Demand Recorder with on site display and Totalized output | | | 03-04-94 | Con-Ed | |

# DEMAND RECORDERS/TOTALIZERS

| TYPE | CHANNELS | COUNTS | VOLTAGE | DATE | TESTING ENTITY | REVIEW |
|---|---|---|---|---|---|---|
| ***FAIRCHILD SPACE AND ELECTRONICS CO.*** | | | | | | |
| PDSU | Solid State | | | 12-16-80 | Con-Ed | |
| ***EMAX INCORPORATED*** | | | | | | |
| EMAX Solid State | | | | 06-30-82 | NYSEG | |
| ***ROBINTON PRODUCTS, INC.*** | | | | | | |
| LPR Solid State Recorder | 4 | 1500/15 min. int. | 120/240 | 02-14-83 | Con-Ed | |
| LPR-II Solid State Recorder | | | | 07-01-88 | | |
| ***CONTROL DEVICES*** | | | | | | |
| System 10 | Pulse Recording Transponder Solid State | | | 07-24-85 | RG&E | |
| ***TELOG INSTRUMENTS*** | | | | | | |
| 8506 | Pulse Recording Transponder (3 Channel System 10) | | | 09-09-87 | RG&E | 10-25-89 |
| ***APPALACHIAN TECHNOLOGY*** | | | | | | |
| SST-2430 | Electronic Totalizer | | | 01-13-89 | Con-Ed | |
| ***DUNCAN/LANDIS & GYR*** | | | | | | |
| DG-100 | 2 or 4 | Solid State Demand Recorder | | 06-09-92 | RG&E | |

# 16 NYCRR, PART 93, PSC APPROVAL
# DEMAND RECORDERS/TOTALIZERS

| TYPE | CHANNELS | COUNTS | VOLTAGE | DATE | TESTING ENTITY | REVIEW |
|---|---|---|---|---|---|---|
| | | ***DOMESTIC AUTOMATION*** | | | | |
| Linc | 4 | Electronic Recorder | | 6/9/92 | RG&E | |
| | | ***METRETEK*** | | | | |
| SIP AC-II | 2 | Solid State | | 12/04/92 | RG&E | |
| SIP AC-IV | 4 | Solid State | | 12/04/92 | RG&E | |
| | | ***SUMATRON*** | | | | |
| Model 600 | Solid-State Totalizing | Relay | | 4/30/93 | LILCO | |
| | | ***TRANSDATA*** | | | | |
| SSR-6000 | 12 | Solid State | | 6/18/09 | Con Ed | |

# DEMAND RECORDERS/TOTALIZERS

# CURRENT TRANSFORMERS

***GENERAL ELECTRIC***

| TYPE | PRIMARY AMPS | VOLTS | SEC. AMP. | DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| JCX-0 | 200, 400, 600, 800 | 600 | 5 | 06-29-65 | L.I.L. | |
| JCR-0 | Indoor and Outdoor | | | | | |
| | 200 and 400 | 600 | 5 | 06-29-65 | L.I.L. | |
| JKL-3 | 5 to 4000 | 5,000 | 5 | 09-27-60 | NIMO | |
| JKL-4 | 5 to 4000 | 8,700 | 5 | 09-27-60 | NIMO | |
| JKL-5 | 5 to 4000 | 15,000 | 5 | 09-27-60 | NIMO | |
| JKM-3 | 5 to 800 | 5,000 | 5 | 06-27-51 | L.I.L.C.O. | |
| JKM-95 | 5 to 200 | 15,000 | 5 | 03-13-70 | NIMO | |
| JKM-5 | 5 to 800 | 15,000 | 5 | 07-12-60 | NIMO | |
| JKM-3C | 5 TO 800 | 8700 | 5 | 10-24-14 | NGRID | 11-13-14 |
| JKM-3C | 5 to 800 | 5000 | 5 | 08-20-03 | G.E. | 12-19-03 |
| JKM-4C | 5 to 800 | 8700 | 5 | 08-20-03 | G.E. | 12-19-03 |
| JKM-5C | 5 to 800 | 15000 | 5 | 08-20-03 | G.E. | 12-19-03 |
| JKM-4 | 10 to 800 | 8700 | 5 | 04-12-60 | N.M.P. | 06-22-60 |
| JCD-0 | 2000-3000-4000-8000 | 600 | 5 | 08-09-60 | L.I.L. | 06-22-60 |
| | 1000/2000-2000/4000 | | | | | |
| JKP-0 | 5 to 600 | 600 | 5 | 06-16-52 | L.I.L.CO | 06-16-52 |
| JKP-0 | 5 to 800 | 600 | 5 | 09-21-55 | L.I.L.CO | 09-21-55 |
| JKS-5 | 40-100-150-200-300 | 15000 | 5 | 09-13-60 | Con-Ed | 06-20-60 |
| | 400-600-800 (Approved only where high short circuit duty required. See approval) | | | | | |
| JCM-2 | 1200-1500-2000-3000 | 2500 | 5 | 12-28-60 | RG&E | 11-11-60 |
| | 4000 | | | | | |
| JCB-3 | 1200-1500-2000-3000-4000 | 5000 | 5 | 06-13-62 | N.M.P. | 05-17-62 |
| JCB-4 | " " " " " | 8700 | 5 | | | |
| JCB-5 | " " " " " | 15000 | 5 | | | |
| JCB-3a* | " " " " " | 5000 | 5 | 02-9-04 | KEG | 02-12-04 |
| JCB-3a | 1000 | 5000 | 5 | 06-07-10 | GE | 06-08-10 |
| JCB-4a* | " " " " " | 8700 | 5 | 02-9-04 | KEG | 02-12-04 |
| Jcb-5a* | " " " " " | 15000 | 5 | 02-9-04 | KEG | 02-12-04 |
| JCD-3 | " " " " " | 5000 | 5 | 06-13-62 | N.M.P. | 05-17-62 |
| JCD-4 | " " " " " | 8700 | 5 | | | |
| JCD-5 | " " " " " | 15000 | 5 | | | |
| JCM-3 | " " " " " | 5000 | 5 | | | |
| JCM-4 | " " " " " | 8700 | 5 | | | |
| JCM-5 | " " " " " | 15000 | 5 | | | |

# CURRENT TRANSFORMERS

| | | | | | | |
|---|---|---|---|---|---|---|
| JCW-3 | " " " " " | 5000 | 5 | | | |
| JCW-4 | " " " " " | 8700 | 5 | | | |
| JCW-5 | " " " " " | 15000 | 5 | | | |
| JCW-0 | 200-400 | 600 | 5 | 02-13-63 | N.M.P. | 01-10-63 |
| KG-150 | 10/20, 25/50, 50/100, 75/150, | 25kv | 5 | 02-16-65 | NYSEG | 01-14-65 |
| | 100/200, 150/300, 200/400, 300/600, | 34.5kv | | | | |
| | 400/800, 500/1000, 600/1200, 800/1600 | 46kv | | | | |
| | 1000/2000 | 69kv | | | | |
| KG-200 | See KG-150 | | | | | |
| KG-250 | See KG-150 | | | | | |
| KG-350 | See KG-150 | | | | | |

* Approved on similarity to JCB-3,JCB-4,JCB-5.

# CURRENT TRANSFORMERS

***GENERAL ELECTRIC***

| TYPE | PRIMARY AMPS | VOLTS | SEC. AMP. | DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| JCD-0 | 5000-6000 | 600 | 5 | 08-04-70 | N.M.P. | |
| JCM-0 | 200-400-600 | 600 | 5 | 06-29-65 | N.M.P. | |
| JCR-0 | 200-400 | 600 | 5 | 05-29-65 | N.M.P. | |
| KW-450 | 50/100, 75/150, 100/200 150/300, 200/400, 300/600, 400/800, 600/1200, 800/1600 | 92kv | 5 | 04-26-66 | N.M.P. | 03-03-66 |
| KW-550 | See KW-450 | 115kv | 5 | 04-26-66 | N.M.P. | 03-03-66 |
| KW-550* | 1000/2000, 1500/3000 | 115kV | 5 | 08-19-03 | GE | 07-01-03 |
| KW-650 | See KW-450 | 138kv | 5 | 04-26-66 | N.M.P. | 03-03-66 |
| KW-750 | See KW-450 | 161kv | 5 | 04-26-66 | N.M.P. | 03-03-66 |
| KW-900 | See KW-450 | 230kv | 5 | 04-26-66 | N.M.P. | 03-03-66 |
| JAD-0 | 800, 1000, 1200, 1500, 2000, 3000 4000, 1000/2000, 1500/3000, 2000/4000 | 600 | 5 | 06-09-66 | Con-Ed | 05-16-66 |
| JKW-150 | 25/50, 50/100, 75/150, 100/200, 150/300, 200/400, 300/600, 400/800, 500/1000, 600/1200, 800/1600, 1000/2000, 1500/3000 | 25kv | 5 | 06-09-66 | N.M.P. | 05-05-66 |
| JKW-200 | See JKW-150 | 34.5kv | 5 | 06-09-66 | N.M.P. | 05-05-66 |
| JKW-250 | See JKW-150 | 46kv | 5 | 06-09-66 | N.M.P. | 05-05-66 |
| JKW-350 | See JKW-150 | 69kv | 5 | 06-09-66 | N.M.P. | 05-05-66 |
| JCL-0 | 1200, 1500, 2000, 3000, 4000 | 600v | 5 | 11-14-67 | RG&E | 09-25-67 |
| JAK-0 | 200, 400, 500, 600, 800, 200/400, 300/600, 400/800 | 600v | 5 | 06-05-69 | RG&E | 04-30-69 |
| JCT-0 | 200, 400, 600, 800 | 600v | 5 | 08-20-69 | N.M.P. | 07-30-69 |
| JCD-0 | 1500 | 600v | 5 | 08-04-70 | N.M.P. | 06-30-70 |
| JAB-0 | 300, 400, 500, 600, 800, 1000, 1200, 1500, 2000, 3000 | 600v | 5 | 01-26-71 | L.I.L. | |
| JKW-110 | 5, 10, 15, 20, 25, 50, 75, 100, 150, 200, 300, 400, 600, 800 | 15kv | 5 | 07-20-71 | N.M.P. | |

* Approved on similarity to KW-550 115kV 800/1600

# CURRENT TRANSFORMERS

***GENERAL ELECTRIC***

| TYPE | PRIMARY AMPS | VOLTS | SEC. AMP. | DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| JKM-95 | 5 through 200 | 15kv | 5 | 03-12-74 | N.M.P. | 12-26-73 |
| JCK-3** | 5 – 800 | 5kV | 5 | 08-19-03 | GE | 07-08-03 |
| JCK-4** | 5 – 800 | 8.7kV | 5 | 08-19-03 | GE | 07-08-03 |
| JCK-5, JCJ-5CER | 10 through 800 | 15kv | 5 | 04-15-75 | N.M.P. | 02-27-75 |
| KH-450 | 37.5 x 75 through 300 x 600 | 92/115kv | 5 | 09-07-78 | N.M.P. | 05-01-78 |
| KH-550 | | 115/138kv | | | | |
| KH-650 | 400/800 through 1000/2000 | 138/161kv | 5 | | | |
| KH-750 | | 151/196kv | | | | |
| KH-900 | | 196/230kv | | | | |
| JKW-7 | 10/5 through 800/5 | 34.5kv | 5 | 12-28-78 | N.M.P. | |
| JAB-0 | 200:5 | 600 | 5 | 03-06-87 | N.M.P. | 12-15-86 |
| BM | 600 | 34.5kv | 5 | 10-30-87 | RG&E | 07-27-87 |
| JKW-5,JWK-5c | 10 through 1200 | 15kv | 5 | Note: PSC Case #279 | | |
| JKW-5A | All Ratios | 15Kv | 5 | 12-04-97 | NYSEG | 02-13-97 |
| JKW-6A | All Ratios | 15Kv | 5 | 12-04-97 | NYSEG | 02-13-97 |
| JKM-5A, JCK-5c JKM-5AC | All Ratios | 15Kv | 5 | 12-04-97 | NYSEG | 02-13-97 |
| JAG-0 | 600:5 | 600 | 5 | 08-19-98 | Cen Hud | |
| JAB-0C JAB-OW | 200:5 through 3000:5 | 600 | 5 | 01-25-02 | GE | 12-26-01 |
| JCL-0C# | 1200:5 through 3000:5 | 600 | 5 | 01-25-02 | GE | 12-26-01 |
| JCM-0C# | 200:5 through 400:5 | 600 | 5 | 01-25-02 | GE | 12-26-01 |
| JCT-0C JCT-OW | 200:5 through 800:5 | 600 | 5 | 01-25-02 | GE | 12-26-01 |
| JAD-0C JAD-OW | 200:5 through 4000:5 | 600 | 5 | 04-16-02 | GE | 03-26-02 |
| JAK-0C JAK-W | 200:5 through 800:5 | 600 | 5 | 04-16-02 | GE | 03-26-02 |
| JCD-0C% | 1500:5 through 8000:5 | 600 | 5 | 04-16-02 | GE | 03-26-02 |
| JCP-0C% | 600:5 through 4000:5 | 600 | 5 | 04-16-02 | GE | 03-26-02 |
| JCR-0C JCR-OW | 100:5 through 400:5 | 600 | 5 | 04-16-02 | GE | 03-26-02 |
| JCW-0C% | 200:5 through 400:5 | 600 | 5 | 04-16-02 | GE | 03-26-02 |
| 17-1200-14 | 3,000 | 145 | 5 | 10-14-09 | GE | 02-11-10 |
| PT-7 | 2400:120 to 34500:120 | 5000 | 120 | 8-20-03 | GE | 12-19-03 |

**Approved on similarity to the JCK-5

# CURRENT TRANSFORMERS

# Aprv'd on similarity to JAB-0, JCL-0, JCM-0, JCT-0 respectively; insulation material change; manf'd at GE Clearwater Fl
% Aprv'd on similarity to JAD-0, JAK-0, JCD-0, JCP-0,JCR-0, JCW-0 respectively; insulation change; manf'd in Clearwater Fl
* Approved on similarity of the CTM-115, No longer manufactured

## *GEC ALSTHOM*

| TYPE | PRIMARY AMPS | VOLTS | SEC. AMP. | DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| CTM-069 | | 69kv | 5 | 09-11-95 | L.I.L. | 10-18-94 |
| CTM-115 | | 115kv | 5 | 09-11-95 | L.I.L. | 10-18-94 |
| CTM-138 | | 138kv | 5 | 09-11-95 | L.I.L. | 10-18-94 |
| CTH-115* | | 115kv | 5 | 03-29-99 | CEN-HUD | 01-19-99 |

## *GEC DURHAM INDUSTRIES*

| | | | | | | |
|---|---|---|---|---|---|---|
| AD | 300,300,400,500,600,800,1000,1200,1500 2000,3000,4000,5000,6000,600/1200,800/1600 1000/2000,1500/3000,2000/4000 | 600 | 5 | 12/18/02 | ConEd | 07/25/02 |
| ACL | 800,1000,1200,1500,2000,3000,4000,1000/2000, 1500/3000,2000/4000 | 600 | 5 | 12/18/02 | ConEd | 07/25/02 |
| TAB | 200,300,400,600,800 | 600 | 5 | 6/13/07 | GEC Durham | 10/16/07 |
| AB | 100,200,300,400,600,600,800,1200,1500,2000, 3000,4000,200/400,300/600,400/800,1000/2000, 1500/3000,2000/4000 | 600 | 5 | 6/13/07 | GEC Durham | 10/16/07 |

## *HITACHI*

| | | | | | | |
|---|---|---|---|---|---|---|
| UB-R | 3000-2500-2000 | 345kV/63kA switchgear | 5 | 6/20/06 | HVB/AE | 04/25/06 |

## *SCHNEIDER ELECTRIC*

| | | | | | | |
|---|---|---|---|---|---|---|
| Current/Voltage Transformer Verification | | 765kV | | 9-19-07 | N'Grid | 7-7-07 |
| Current/Voltage Transformer Reclassification | | 500kV | | 9-19-07 | N'Grid | 7-7-07 |
| Schneider Electric ION8650 | | | | | | |

# CURRENT TRANSFORMERS

***NXTPHASE OPTICAL TRANSFORMERS***

| | | | | | | |
|---|---|---|---|---|---|---|
| NXCT | 1 to 3000 | 69-765kV | 5 | 06/05/04 | NGRID | 10/20/05 |

***RITZ INSTRUMENT TRANSFORMERS***

| | | | | | | |
|---|---|---|---|---|---|---|
| GIFU 15.01 | 5 to 1200 A | 15.5kV | 5 | 2-9-05 | RITZ | 10-5-04 |
| GIFU 15.01L | 5 to 1200 A | 15.5kV | 5 | 2-9-05 | RITZ | 10-5-04 |
| GIFU 25-01 | 5 to 1200 A | 25kV | 5 | 2-9-05 | RITZ | 10-5-04 |
| GIF 36 | 5 t0 3000 A | 36kV | 5 | 2-9-05 | RITZ | 10-5-04 |
| GIF 48 | 5 to 3000 A | 48kV | 5 | 2-9-05 | RITZ | 10-5-04 |
| GIF 72 | 5 to 3000 A | 72kV | 5 | 2-9-05 | RITZ | 10-5-05 |
| GIFS 36-55 | 5 to 3200 A | 35kV | 5 | 2-9-05 | RITZ | 10-5-05 |
| OSKF | Extended Current Range | 123-765kV | | 2-9-05 | RITZ | 10-5-04 |
| OTCF | EM Voltage Transformer | 72.5-765kV | | 7-19-06 | RITZ | 3-21-06 |
| OTCF | IM Voltage Transformer | 36.5-550kV | | 7-19-06 | RITZ | 3-21-06 |
| OTCF | SM Voltage Transformer | 36.5-550kV | | 7-19-06 | RITZ | 3-21-06 |
| DVE6/DVF6 | Voltage Transformer | 10kv | | 5-27-11 | RITZ | 12-20-11 |
| DCAW, DCBW | 100 to 1200 | 600v | 5 | 5-27-11 | RITZ | 12-20-11 |
| DCAB,DCBB | 100 to 1200 | 600v | 5 | 5-27-11 | RITZ | 12-20-11 |
| KOTEF | 72-362kV | 115 | Oil | 2-9-05 | RITZ | 10-5-04 |
| KSKEF | 123-765kV | 115 | SF6 | 2-9-05 | RITZ | 10-5-04 |
| VEF 72.5 | 5.5kV to 72.5kV | 69kV | | 10-5-04 | RITZ | 2-9-05 |
| VEF 15-10 | 5.5kV to 72.5kV | 15kV | | 10-5-04 | RITZ | 2-9-05 |
| VZF 15-10 | 5.5kV to 72.5kV | 15kV | | 10-5-04 | RITZ | 2-9-05 |
| VEF 15-20 | 5.5kV to 72.5kV | 15kV | | 10-5-04 | RITZ | 2-9-05 |
| VZF 15-20 | 5.5kV to 72.5kV | 15kV | | 10-5-04 | RITZ | 2-9-05 |
| VEF 25-10 | 5.5kV to 72.5kV | 25kV | | 10-5-04 | RITZ | 2-9-05 |
| VZF 25-10 | 5.5kV to 72.5kV | 25kV | | 10-5-04 | RITZ | 2-9-05 |
| VEF 48-01 | 5.5kV to 72.5kV | 48kV | | 10-5-04 | RITZ | 2-9-05 |
| VEF 72.5 | 5.5kV to 72.5kV | 69kV | | 10-5-04 | RITZ | 2-9-05 |
| OTEF | 72.5kV to 765kV | 245kV-765kV | | 10-5-04 | RITZ | 2-9-05 |
| DCCW | 100-3000 A | 600v | | 5-11-11 | RITZ | 12-11-11 |
| DCDW | 100-4000 A | 600v | | 5-11-11 | RITZ | 12-11-11 |
| DCEB, DCEW | 200-6000 A | 600v | | 5-11-11 | RITZ | 12-11-11 |
| DCCB | 100-3000 A | 600v | | 5-11-11 | RITZ | 12-11-11 |

***SANGAMO/SCHLUMBERGER***

| | | | | | |
|---|---|---|---|---|---|
| BH-6 | 200, 400, 600, 800, 200/400, 400/800 | 600 | 5 | 08-04-59 | N.M.P. |

# CURRENT TRANSFORMERS

| | | | | | | |
|---|---|---|---|---|---|---|
| S-6 | 200, 400, 600, 800 | 600 | 5 | 02-28-61 | N.M.P. | 02-20-61 |
| WH-6 | 800, 1200, 1500, 2000, 3000, 1000/2000 | 600 | 5 | 10-23-62 | Con-Ed | 10-05-62 |
| SK-6 | 200 | 600 | 5 | 01-07-64 | Con-Ed | 11-27-63 |
| S-6A | 200, 400, 600 | 600 | 5 | 12-08-65 | Con-Ed | 11-05-65 |
| WH-6A | 800, 1000, 1200, 1500 | 600 | 5 | 11-14-67 | L.I.L. | |
| SMC-150 | 10, 15, 20, 25, 30, 40, 50, 75, 100, 150, 200, 300, 400, 600, 800 | 15kv | 5 | 09-23-69 | L.I.L. | 08-27-69 |
| B6SA,B6S | 200 through 2000 | | | | | |
| B6BA,B6B B6M,B6P | 200/400 through 400/800 | 600 | 5 | 12-20-74 | Con-Ed | |
| R6* | All ratios | 600 | 5 | 12-23-86 | Con-Ed | 11-19-86 |
| R6M* | 100, 200 | 600 | 5 | 01-24-90 | Con-Ed | 10-16-89 |
| R6/Santoprene | All ratios | 600 | 5 | 11-09-10 | Itron | 12-02-10 |

* 100:5 and 200:5 thermal rating increased from 3 to 4.

### *MWB MESSWANDLER/HAEFELY TRENCH*

| TYPE | PRIMARY AMPS | VOLTS | SEC. AMP. | DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| SAS | 115-765kv | SF6 Gas Insulated | | 09-18-95 | N.M.P. | 01-21-94 |

### *SQUARE "D" COMPANY/HAEFELY TRENCH*

| | | | | | | |
|---|---|---|---|---|---|---|
| IK | All ratios | | | 08-11-86 | N.M.P. | 01-24-86 |
| IH | All ratios | | | 08-11-86 | N.M.P. | 01-24-86 |

### *NWL TRANSFORMERS*

| | | | | | | |
|---|---|---|---|---|---|---|
| 31422 | 1200, 1600:5 | | 5 | 09-26-86 | Con-Ed | 06-25-86 |
| 31426 | 2400:5 | | 5 | 03-09-88 | Con-Ed | 11-04-87 |

### *WESTINGHOUSE/ABB*

| | | | | | | |
|---|---|---|---|---|---|---|
| EMC | 800, 1200, 1500, 2000, 3000, 4000, 1000/2000, 1500/3000, 2000/4000 | 600 | 5 | 04-25-60 | Con-Ed | 03-24-61 |

# CURRENT TRANSFORMERS

| | | | | | | |
|---|---|---|---|---|---|---|
| ACT-550 | 600/1200 | 11500 | 5 | 12-28-60 | N.M.P. | 09-21-60 |
| CTOM-15 | 10, 15, 20, 25, 30, 40, 50, 75, 100, 150, 200, 300, 400, 600, 800 | 15000 | 5 | 05-09-61 | L.I.L. | 10-27-64 |
| CTOM-5 | 5, 10, 15, 20, 25, 30, 40, 50, 75, 100, 150, 200, 300, 400, 600, 800 | 5000 | 5 | 10-27-64 | L.I.L. | |
| CTOM-15 | To include 5 amp rating | 15000 | 5 | 03-30-65 | Cen-Hud | 03-02-65 |
| CLA-10 | 800 | 600 | 5 | 08-23-67 | N.M.P. | 08-04-67 |
| CLA-10 | 1000, 1200, 1500, 2000, 3000, 4000, 1000/2000, 1500/3000, 2000/4000 | 600 | 5 | 05-11-65 | Con-Ed | |
| RTM-10 | 200, 400, 600, 800 | 600 | 5 | 04-04-67 | Con-Ed | 03-03-67 |
| CTR | 200, 400,600, 800, 200/400, 300/600, 400/800 | 600 | 5 | 03-15-68 | N.M.P. | 08-04-67 |
| CT-25 | 400 | 25000 | 5 | 06-06-68 | Con-Ed | |
| CTR | 400/5 4.0 T.F. | 600 | 5 | 07-21-70 | N.M.P. | 09-30-70 |
| CRA-10 | 400, 600, 800, 1000, 1200, 1500, 2000 | 600 | 5 | 09-23-71 | RG&E | 09-07-71 |

***WESTINGHOUSE/ABB***

| TYPE | PRIMARY AMPS | VOLTS | SEC. AMP. | DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| CSB-10 | 200, 400, 600 | 600 | 5 | 09-12-72 | Cen-Hud | |
| ACT-200 | 100, 200 | 34500 | 5 | 09-12-72 | Con-Ed | |
| ACT-350 | 10/20 through 1500/3000 | 69000 | 5 | 04-01-75 | Cen-Hud | |
| CMF* | 200, 400, 500, 600, 800, 200/400, 300/600, 400/800 | 600 | 5 | 02-06-80 | Cen-Hud | |
| CBT | 200, 300, 400, 500, 600, 800 | 600 | 5 | 03-05-80 | N.M.P. | |
| CSF | 200, 300, 400, 600 | 600 | 5 | 03-05-80 | Cen-Hud | |
| CMV* | 200, 300, 400, 600, 800, 1000, 1200, 1500, 2000, 3000 | 600 | 5 | 03-05-80 | N.M.P. | |
| CLC* | 800, 1000, 1200, 1500, 2000, 3000, 4000, 600/1200, 800/1600, 1000/2000, 1500/3000, 2000/4000 | 600 | 5 | 03-05-80 | N.M.P. | |
| KOR-60 | 5 through 800 | 4800 | 5 | 03-09-82 | N.M.P. | 03-30-81 |
| KON-11 | 25 through 800 | 15000 | 5 | 01-12-83 | N.M.P. | |
| KOR-75** | 5 – 800 | 8.32kV | 5 | 09-02-03 | ABB | 08-19-03 |
| KOR-11** | 5 – 800 | 13800 | 5 | 09-02-03 | ABB | 08-19-03 |
| KOR-15** | 10-800 | 25000 | 5 | 09-02-03 | ABB | 08-19-03 |

# CURRENT TRANSFORMERS

| | | | | | | |
|---|---|---|---|---|---|---|
| KOR1-15C** | 5-1200 | 25000 | 5 | 09-02-03 | ABB | 08-19-03 |
| KOR-20** | 10-1200 | 34.5kV | 5 | 09-02-03 | ABB | 08-19-03 |
| KIR-11 | 25 through 800 | 13800 | 5 | 10-24-83 | Cen-Hud | |
| CBT/1 | 200 through 800 | 600 | 5 | 10-26-92 | N.M.P. | 02-21-92 |
| CBT-H | 200 through 800 | 600 | 5 | 10-26-92 | N.M.P. | 02-21-92 |
| BCT | 400 through 3000 | 600 | 5 | 10-24-01 | RGE | 05-04-01 |
| SAB-2 | 1600:5 | 600 | 5 | 05-08-09 | Huntley | 06-08-09 |

**Approved on similarity to the KOR-60 and KON-11

***ITE CIRCUIT BREAKER COMPANY***

| | | | | | | |
|---|---|---|---|---|---|---|
| MC15AS | 400 | 15000 | 5 | 09-09-64 | Con-Ed | 08-10-67 |

***ALLIS CHALMERS***

| | | | | | | |
|---|---|---|---|---|---|---|
| BKCM | 1000/2000 through 2000/4000 | 600 | 5 | 07-17-62 | Con-Ed | 06-11-62 |

* CMF, CMV, CLC – modification - standardized terminal sizes 01-09-01.

***KUHLMAN ELECTRIC CORP***

# VOLTAGE TRANSFORMERS

| TYPE | PRIMARY AMPS | VOLTS | SEC. AMP. | DATE | TESTING ENTITY | APPROVAL SUBMITTED | REVIEW |
|---|---|---|---|---|---|---|---|
| CEH | 1000/2000 through 2000/4000 | 600 | 5 | 01-21-64 | Con-Ed | 12-16-63 | |
| DEH | 1000, 2000 | 600 | 5 | 01-23-73 | Con-Ed | 12-11-72 | |
| COF-200 | All | | 5 | 03-06-87 | Con-Ed | 12-29-86 | |
| PS-981 | Through 2000:5 | 600 | 5 | 08-03-99 | Con-Ed | 05-07-99 | |
| POF350-2 | 69kV | | 5 | 11/12/04 | Con-Ed | 08-18-04 | |
| PH-982 | 3000 | 600 | 5 | 03/17/05 | Con-Ed | 11-20-05 | |
| CXM | 34.5 – 345 kV | | | 7/25/07 | N'Grid | 7-25-07 | |
| KA72,123,145,245 | 69kV-230kV | 600 | 5 | 5/20/08 | Kuhlman | 10-15-08 | |
| KXM-350,550,650,1050 | 69kV – 230kV | 600 | 5 | 5/20/08 | Kuhlman | 10-15-08 | |
| ***ASTRA CORPORATION*** | | | | | | | |
| TCB* | 200, 400, 600, 800 | 600 | 5 | 03-18-66 | Con-Ed | 01-17-66 | 04-14-92 |
| TCW | 200, 400, 600, 800 | 600 | 5 | 09-05-68 | Cen-Hud | 05-31-68 | |
| AP | 300, 400, 500, 600, 800, 1000 1200, 1500, 2000, 3000 | 600 | 5 | 08-29-77 | RG&E | 11-22-78 | |
| APN | 200, 300, 400, 500 | 600 | 5 | 06-16-86 | RG&E | 11-04-85 | |
| APNE | 200 | 600 | 5 | 06-16-86 | RG&E | 11-04-85 | |
| TCB | 100 | 600 | 5 | 01-22-87 | RG&E | 09-05-86 | |
| TCW | 100 | 600 | 5 | 01-22-87 | RG&E | 09-05-86 | |

* Molding change due to the use of a superior steel core, added 600:5 ratio on a similarity basis.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Meramec*** | | | | | | | |
| BCT | 5- 8,000 | 600 | 5,1 | 08-08-06 | Meramec | 11-08-06 | |

# VOLTAGE TRANSFORMERS

***GENERAL ELECTRIC***

| TYPE | PRIMARY VOLTS | SEC. VOLT | INSULATION LEVEL | APPROVED DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| JVW-3 | 2400, 4200, 4800 | 120 | 5000 | 08-04-59 | L.I.L. | |
| JVW-4 | 2400, 4200, 4800, 7200 | 120 | 8700 | | N.M.P. | |
| | Modification | | | | | 05-03-71 |
| JVW-5 JVW-5C | 7200, 8400, 12000, 14400 | 120 | 15000 | | | |
| JVM-3 | 2400, 4200, 4800 | 120 | 5000 | 12-22-59 | L.I.L. | |
| JVM-4 | 4200, 4800, 7200 | 120 | 8700 | | N.M.P. | |
| | Modification | | | | | 05-03-71 |
| JVM-5 | 7200, 8400, 12000, 14400 | 120 | 15000 | | | |
| ET-11 | 115000 | 115 | 115000 | 09-27-60 | | |
| JVPO | 240 | 120 | 416 | 12-28-60 | RG&E | 10-19-60 |
| JVPO | 288 | 120 | 480 | | | |
| JVPO | 300 | 120 | 480 | | | |
| JVPO | 480 | 120 | 480 | | | |
| JVPO | 600 | 120 | 600 | | | |
| ES-200 | 34500 | 115 | | 09-09-87 | RG&E | 06-10-87 |
| EW-450 | 69000 | 69/115 | 115000 | 04-09-63 | NYSEG | 03-14-63 |
| EW-550 | 69000 | 69/115 | 115000 | | | |
| EW-650 | 80500 | 67.08/115 | 138000 | | | |
| EW-750 | 92000 | 67.71/115 | 161000 | | | |
| EW-900 | 13800 | 69/115 | 230000 | | | |
| EW-1175 | 207000 | 69/115 | 345000 | | | |
| EW-1300 | 207000 | 69/115 | 345000 | | | |
| ET-150 | 24000 | 120 | 24000 | 04-23-63 | NYSEG | 03-14-63 |
| ET-200 | 27600 | 115 | 34500 | | | |
| ET-200 | 34500 | 115 | 34500 | | | |
| ET-250 | 46000 | 115 | 46000 | | | |
| ET-350 | 69000 | 115 | 69000 | | | |
| JVS-150 | 25000 | 72/120 | 150000 | 05-24-66 | N.M.P. | |
| JVS-200 | 34500 | 67/115 | 200000 | 05-24-66 | N.M.P. | |

# VOLTAGE TRANSFORMERS

### *NxTPhase*

| TYPE | PRIMARY VOLTS | SEC. VOLT | INSULATION LEVEL | APPROVED DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| NXVT | 115-765kV | 5/120 | | 06/05/04 | NGRID | 10/20/05 |

### *Nissen Electric*

| | | | | | | |
|---|---|---|---|---|---|---|
| SVR-34C | 207kV | 69/115 | 345 | 8-30-06 | HVB Power | 3-7-06 |

### *KUHLMAN ELECTRIC*

| | | | | | | |
|---|---|---|---|---|---|---|
| POF | 34.5 - 138kV | | | 9-19-07 | Kuhlman | 9-19-07 |
| UTF | 138-230kV | | | 9-19-07 | Kuhlman | 9-19-07 |
| UTF | 345kV | | | 2-20-09 | Kuhlman | 1/30/09 |

### *GENERAL ELECTRIC*

| TYPE | PRIMARY VOLTS | SEC. VOLT | INSULATION LEVEL | APPROVED DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| JVT-150 | 25000 Modification | 120 | 150000 | 05-24-66 | N.M.P. | 05-04-71 |
| JVT-200 | 34500 | 115 | 200000 | 05-24-66 | N.M.P. | " |
| JVT-200 | 27600 | 115 | 200000 | 05-24-66 | N.M.P. | " |
| JVS-250 | 27600 | 69/115 | 250000 | 09-13-67 | N.M.P. | |
| JVS-350 | 40250 | 67/115 | 350000 | 09-13-67 | N.M.P. | |
| JVT-250 | 46000 | 115 | 250000 | 09-13-67 | N.M.P. | |
| JVT-350 | 69000 | 115 | 350000 | 09-13-67 | N.M.P. | |
| JVA-0 | 120,240,288,300,480,600 | 120 | 600 | 09-13-67 | N.M.P. | |
| JE-27 | 160 | 120 25n | 2500 | 06-06-68 | CON ED | 05-13-68 |
| JVW-110 | JVW-110C 7200, 8400, 12000, 14400 | 120 | 15000 | 07-20-71 | N.M.P. | |
| EW-900Y | 138000 | 115 | | 08-31-72 | N.M.P. | |
| JVM-95 | 7200, 8400, 12000, 14400 | 120 | 15000 | 03-12-74 | N.M.P. | 12-24-73 |
| JVW-110 | 60-70/1 Revised design | 120 | 15000 | 06-09-75 | N.M.P. | |

| | | | | | | |
|---|---|---|---|---|---|---|
| JVW-7 | 27.6 and 34.5kv, 175/1, 240/1, 300/1 | 120 | 150kv | 12-28-78 | N.M.P. | |
| JVW-4A | 2400, 7200 | 120 | 8700 | 12-04-97 | NYSEG | 02-13-97 |
| JVW-5A JVW-SAC | 7200, 14400 | 120 | 15000 | 12-04-97 | NYSEG | 02-13-97 |
| JVM-4A | 2400, 7200 | 120 | 8700 | 12-04-97 | NYSEG | 02-13-97 |
| JVM-5A | 7200, 14400 | 120 | 15000 | 12-04-97 | NYSEG | 02-13-97 |
| JVA-0C | 120 - 600 | 120 | 10000 | 02/19/03 | GE | |
| JVM-0C | 69.3 - 600 | 120 | 10000 | 02/19/03 | GE | |
| JVM-3C | 2400 - 4800 | 120 | 60000 | 02/19/03 | GE | |
| JVM-4C | 4200 - 7200 | 120 | 75000 | 02/19/03 | GE | |
| JVM-4AC | 4200 - 7200 | 120 | 75000 | 02/19/03 | GE | |
| JVM-5C | 7200 – 14400 | 120 | 110000 | 02/19/03 | GE | |
| JVM-5AC | 7200 – 14400 | 120 | 110000 | 02/19/03 | GE | |
| JVM-6C | 12000 – 24000 | 120 | 125000 | 02/19/03 | GE | |
| PT7-2-150* | 24000, 27600, 34500 | 120 | 150kV | 08-29-03 | GE | 08-20-03 |
| PT7-2-200* | 24000, 27600, 34500 | 120 | 200kV | 08-29-03 | GE | 08-20-03 |

* Approved on similarity to JVM series

## ***NxTPhase***

| | | | | | | |
|---|---|---|---|---|---|---|
| NXVCT | 69-765kV range 0-4000amps | 120 | 350-2100kV | 06/05/04 | NGRID | 10/20/05 |

## ***WESTINGHOUSE/ABB***

| **SEC. TYPE** | **INSULATION PRIMARY VOLTS** | **APPROVED VOLT** | **TESTING LEVEL** | **APPROVAL DATE** | **ENTITY** | **SUBMITTED** |
|---|---|---|---|---|---|---|
| EMPL | 240 | 120 | 600-1200 | 05-10-60 | RG&E | 04-18-60 |
| EMPL | 288 | 120 | 600-1200 | | | |
| EMPL | 300 | 120 | 600-1200 | | | |
| EMPL | 480 | 120 | 600-1200 | | | |
| EMPL | 600 | 120 | 600-1200 | | | |
| APT-550 | 69000 | 69/115 | 115000 | 12-13-60 | N.M.P. | 09-21-60 |
| Tertiary | | | | | | |
| Tertiary | | 69/115 | | | | |
| APT-150 | 14400 (1-Bushing) | 72/120 | 24000 | 01-15-63 | NYSEG | 10-29-62 |

| | | | | | | |
|---|---|---|---|---|---|---|
| APT-200 | 20125 (1-Bushing) | 67.08/115 | 34500 | | | |
| APT-250 | 27600 (1-Bushing) | 69/115 | 46000 | | | |
| APT-350 | 40250 (1-Bushing) | 67.08/115 | 69000 | | | |
| APT-150 | 24000 (2-Bushing) | 69.3/120 | 24000 | 01-15-63 | NYSEG | |
| APT-200 | 34500 (2-Bushing) | 66.4/115 | 34500 | | | |
| APT-250 | 46000 (2-Bushing) | 66.4/115 | 46000 | | | |
| APT-350 | 69000 (2-Bushing) | 66.4/115 | 69000 | | | |
| APT-200 | 27600 | 115 | 27600 | 04-09-63 | Con-Ed | 03-12-63 |
| PTM5 | 2400/4160Y | 120 | 5000 | 07-21-64 | Con-Ed | 06-16-64 |
| | through | | through | | | |
| PTM15 | 14400/14400Y | 120 | 15000 | | | |
| PTOM5 | 2400/4160Y | 120 | 5000 | 08-11-64 | Con-Ed | 07-09-64 |
| | through | | through | | | |
| PTOM15 | 14400/14400Y | 120 | 15000 | | | |
| APT-150 | 24000/14400V | 69.3/120 | 25000 | 06-06-68 | Con-Ed | 05-24-68 |
| | 25 cycle | | | | | |
| PTM and | 4200/7280Y | 120 | 75kv | 12-19-68 | L.I.L. | |
| PTOM-75 | through | | through | | | |
| PTM and | 14400/14400Y | | 110kv | | | |
| PTOM-110 | | | | | | |
| PPM | 240, 288, 300, 480, 600 | 120 | 10kv | 03-09-82 | N.M.P. | 03-30-81 |
| VOG-11 | 7200, 7620, 8400 | 120 | 15kv | 02-07-83 | N.M.P. | |

## ***WESTINGHOUSE/ABB***

| TYPE | PRIMARY VOLTS | SEC. VOLT | INSULATION LEVEL | APPROVED DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| VOY-60 | 2400-4800 | 120 | 60kV | 03-09-82 | N.M.P. | 03-30-81 |
| VIZ-11 | 7200-14400 | 120 | 110kV | 09-22-83 | Cen-Hud | 03-03-83 |
| VOZ-11 | 7200-14400 | 120 | 110kV | 10-07-83 | Cen-Hud | 03-03-83 |
| VIY-60* | Indoor 2400-4800 | 120 | 60kV | 12/02/03 | ABB | 11/10/03 |
| VIZ-75* | Indoor 2400-7800 | 120 | 75kV | 12/02/03 | ABB | 11/10/03 |
| VIZZ-15* | Indoor 12000-24000 | 120 | 150kV | 12/02/03 | ABB | 11/10/03 |
| VOZ-75* | Outdoor 2400-7200 (2 Bushing) | 120 | 75kV | 12/02/03 | ABB | 11/10/03 |
| VOY-11* | Outdoor 7200-14400 (2 Bushing) | 120 | 110kV | 12/02/03 | ABB | 11/10/03 |
| VOY-12* | Outdoor 12000-24000 (2 Bushing) | 120 | 125kV | 12/02/03 | ABB | 11/10/03 |

| | | | | | | |
|---|---|---|---|---|---|---|
| VOG-12* | Outdoor 12000-24000 (1 Bushing) | 120 | 125kV | 12/02/03 | ABB | 11/10/03 |
| V0Y-15* | Outdoor 12000-24000 (2 Bushing) | 120 | 150kV | 12/02/03 | ABB | 11/10/03 |
| VOY-15G* | Outdoor 12000-24000 (1 Bushing) | 120 | 150kV | 12/02/03 | ABB | 11/10/03 |
| VOZ-15* | Outdoor 12000-24000 (2 Bushing) | 120 | 150kV | 12/02/03 | ABB | 11/10/03 |
| VOHD-200* | Outdoor 21000-34500 (2 Bushing) | 120 | 200kV | 12/02/03 | ABB | 11/10/03 |
| VOHD-200G* | Outdoor 21000-34500 (1 Bushing) | 120 | 200kV | 12/02/03 | ABB | 11/10/03 |
| VOZZ-20* | Outdoor 21000-34500 (2 Bushing) | 120 | 200kV | 12/02/03 | ABB | 11/10/03 |
| VOZZ-20G* | Outdoor 21000 (1 Bushing) | 120 | 200kV | 12/02/03 | ABB | 11/10/03 |
| VOY-20* | Outdoor 21000-34500 (2 Bushing) | 120 | 200kV | 12/02/03 | ABB | 11/10/03 |
| VOY-20G* | Outdoor 21000 (1 Bushing) | 120 | 200kV | 12/02/03 | ABB | 11/10/03 |
| PTM-75 | Indoor, 60Hz | | | 11-19-68 | L.I.L. | |
| PTM-110 | Indoor, 60Hz | | | 11-19-68 | | |

* Approved on similarity to VOG-11, VOY-60, VIZ-11 and VOZ-11 (approved in 1980s)

### *SANGAMO/SCHLUMBERGER*

| | | | | | | |
|---|---|---|---|---|---|---|
| T-6 | 240 | 120 | 600 | 05-22-62 | N.M.P. | |
| T-6 | 288 | 120 | | | | |
| T-6 | 480 | 120 | | | | |
| T-6 | 600 | 120 | | | | |
| T-6A | 120, 240, 288, 300, 480, 600 | 120 | 600 | 07-08-80 | NYSEG | 02-20-80 |

### *ASTRA*

| | | | | | | |
|---|---|---|---|---|---|---|
| DB | 120, 240, 288, 300, 480, 600 | 120 | 600 | 08-29-77 | RG&E | 11-22-78 |

### *ASSOCIATED ENGINEERING COMPANY/KUHLMAN ELECTRIC CORP*

| TYPE | PRIMARY VOLTS | VOLT | SEC. INSULATION LEVEL | APPROVED DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| SPOF-200 | 34,500 AND 27,600 | 115 | 34,500 | 03-06-87 | Con-Ed | 12-29-86 |
| SPOF-200-2 | 34,500 AND 27,600 | 115 | 34,500 | 08-01-00 | Con-Ed | |

## *SQUARE "D" COMPANY/HAEFELY TRENCH / TRENCH LTD.*

| | | | | | | |
|---|---|---|---|---|---|---|
| U2 | | | | 08-11-86 | N.M.P. | 01-24-86 |
| U3 | | | | 08-11-86 | N.M.P. | 01-24-86 |
| UT | | | | 08-11-86 | N.M.P. | 01-24-86 |
| U2H | | | | 08-11-86 | N.M.P. | 01-24-86 |
| U3H | | | | 08-11-86 | N.M.P. | 01-24-86 |
| UH | | | | 08-11-86 | N.M.P. | 01-24-86 |
| U3-550-115 | 115 kV | | | 12-23-88 | N.M.P. | 06-07-89 |
| U3H-550-115 | 115 kV | | | 12-23-88 | N.M.P. | 06-07-89 |
| UT3-350-69 | 69kV | | | 11-14-90 | N.M.P. | 12-28-89 |
| UT3H-350-69 | 69kV | | | 11-14-90 | N.M.P. | 12-28-89 |
| UT3-550-115 | 115kV | | | 11-14-90 | N.M.P. | 12-28-89 |
| UT3H-550-115 | 115kV | | | 11-14-90 | N.M.P. | 12-28-89 |
| UT5 | 115kV | | | 10-20-95 | N.M.P. | 09-08-95 |
| UT5H | 115kV | | | 10-20-95 | N.M.P. | 09-08-95 |
| UT5-900-230* | 230kV | 115 | 900 | 9-3-03 | Trench | 2-18-03 |
| UT5H-900-230* | 230kV | 115 | 900 | 9-3-03 | Trench | 2-18-03 |
| UT5-1050-230* | 230kV | 115 | 1050 | 9-3-03 | Trench | 2-18-03 |
| UT5H1050-230* | 230kV | 115 | 1050 | 9-3-03 | Trench | 2-18-03 |
| N5 and N5H 69kV-230kV Upgrade core | | 115 | | 2-8-06 | Trench | 6-14-05 |
| SU 362..550 345kV | | | | 7-18-12 | ABB/Trench | 2-9-12 |

* Approved on similarity to UT3 and UT5 69kV and 115kV models

## *GEC ALSTHOM*

| TYPE | PRIMARY VOLTS | SEC. VOLT | INSULATION LEVEL | APPROVED DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| UXT-069 | 69000 | 115 | | 09-11-95 | L.I.L. | 10-18-94 |
| UXT-115 | 115000 | 115 | | 09-11-95 | L.I.L. | 10-18-94 |
| UXT-138 | 138000 | 115 | | 09-11-95 | L.I.L. | 10-18-94 |

## *MWB MESSWANDLER/HAEFELY TRENCH*

| | | | | | | |
|---|---|---|---|---|---|---|
| SVS | 115-765kV | SF6 Gas Insulated | | 09-18-95 | N.M.P. | 01-21-94 |

## *GENERAL ELECTRIC*

| TYPE | PRIMARY VOLTS | SEC. VOLT | INSULATION LEVEL | APPROVED DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| MB-150 | 10/20, 25/50, 50/100, 100/200, 200/400 | 34.5kv | 5 | 09-30-75 | O & R<br>GE | 02-20-74<br>03-28-80 |

## *KUHLMAN ELECTRIC CORP*

| | | | | | | |
|---|---|---|---|---|---|---|
| MVCT-200 | 34,500 | 115 | up to 400 | 08-18-87 | RG&E | 06-02-87 |

| TYPE | PRIMARY VOLTS | SEC. VOLT | INSULATION LEVEL | APPROVED DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|

## *FERRANTI PACKARD*

| | | | | | | |
|---|---|---|---|---|---|---|
| KM-35 | 34,500 | 115 | 5 | 07-07-89 | RG&E | 03-02-89 |

## *MWB MESSWANDLER/HAEFELY TRENCH*

| | | | | | | |
|---|---|---|---|---|---|---|
| SVAS | 115-765kV | SF6 Gas Insulated | | 09-18-95 | N.M.P. | 01-21-95 |

## *NxtPhase*

| | | | | | | |
|---|---|---|---|---|---|---|
| NXVCT | 1 to 3000 | 69-765kV | Opitical | 06/05/04 | NGRID | 10/20/05 |

***ITEC***

| TYPE | | VOLTS | . AMP. | DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| DDC-938 CT | 5000 | 600 | 5 | 11-19-15 | NYSEG | 5/28/15 |
| CTO 200-500 | 46.5-115Kv | 600 | | 11-19-15 | NYSEG | 5/28/15 |
| CVTO 200-500 | 46.5-115Kv | | | 11-19-15 | NYSEG | 5/28/15 |
| SVTO | 34.5Kv | | | 11-19-15 | NYSEG | 5/28/15 |
| VTO | 46-115Kv | | | 11-19-15 | NYSEG | 5/28/15 |

# SUBMETERS

| TYPE | CLASS | VOLTS | WIRE | APPROVED | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|---|
| | | | EATON | | | |
| Power XPert | Indoor Multifamily | 120/240 | 4 wire | 4/22/15 | UL LABS | 2/4/2015 |
| | | | INTECH21 | | | |
| PM2104 | Indoor Single family | 120/240 | 4 wire | 11/20/13 9/8/14 | MET LABS | 8/27/2013 |
| | | | LEVITON | | | |
| Mini-Meter | Indoor Single Family | 120/240 | 4 WIRE | 11/20/13 | MET LABS | 8/23/2013 |
| Series 8000 | Indoor Multifamily | 120/240 | 4 wire | 5/20/15 | MET LABS | 3/3/2014 |

## QUADLOGIC CONTROLS

| | | | | | | |
|---|---|---|---|---|---|---|
| Mini-Closet 5N | Indoor Multifamily | 120/208 | 4 wire | 1/12/2015 | MET LABS | 6/20/2014 |
| S10T | Indoor Single family | 120/208 | 4 wire | 6/17/2015 | UL Labs | 3/15/2015 |

## SATEC

| | | | | | | |
|---|---|---|---|---|---|---|
| BFM-136 | Indoor Multifamily | 120/240 | 4 wire | 3/4/2015 | UL Labs | 6/3/2014 |
| EM-133 | Indoor Single family | 120/240 | 4 wire | 10/15/2015 | UL Labs | 9/9/2014 |

## TRIACTA

| | | | | | | |
|---|---|---|---|---|---|---|
| 6103 6112 | Indoor Multifamily | 120/240 100mA | 4-wire | 6/10/2015 | Similarity Leviton Data | 3/3/2015 |
| 6303 6312 | Indoor Multifamily | 120/240 80mA | 4-wire | 6/10/2015 | Similarity Leviton Data | 3/3/2015 |

# DATA COLLECTION SYSTEM

***METRETEK***

| TYPE | CHANNELS | VOLTAGE | DATE | TESTING ENTITY | APPROVAL SUBMITTED |
|---|---|---|---|---|---|
| SIP-AC | 4 | 120 | 04/23/90 | NYSEG | |
| SIP-B | 4 | w/12V DC Power Supply | | | |
| CMU | 2 | w/12V DC Power Supply | | | |

# AUTOMATIC METER READING DEVICE

***CONSERT COMMUNICATE CONTROL***

| TYPE | DESCRIPTION | DATE | TESTING ENTITY/ENTITY |
|---|---|---|---|
| Tru Smart Energy Gateway | Retrofit module for GE I210 Cl200, 240Vac | 4/21/11 | Central Hudson |
| | GE I210+ cn Form 25S | 9/8/11 | Con Edison |
| | SEG Card with Gobi Modem | 12/13/11 | Con Edison |
| | GE kV2c-SEG card & Gobi Modem | 11/26/12 | Con Edison |

***ITRON***

| TYPE | DESCRIPTION | DATE | TESTING ENTITY/ENTITY |
|---|---|---|---|
| 40E ERT Module | Retrofit Transmitter Module | 10-13-95 | RG&E |
| 40ER-1 | Retrofit Module, single-phase GE, ABB and L&G meters | 10/10/96 | RG&E |
| 40EN | Retrofit Module, Polyphase meters | 10/10/96 | RG&E |
| 41ER-1 | Retrofit Module | 2/24/99 | JBPU |
| 45ERT Series | Retrofit Module 45ER-1 ABB, GE, Siemens; 45ES-1 Schlumberger; 45EN-1 ABB Polyphase Meters. | 9/18/02 | ITRON |
| 52ESS | Net metering capabilities as Delivered – Received | 6/18/09 | Central Hudson |
| 53ESS | For GE kV2c capable in Delivering – Received data | 3/26/12 | National Grid |
| 54ESS | For GE I-210+ series to Store and transmit data | 7/18/12 | National Grid |

# AUTOMATIC METER READING DEVICE

| | | | |
|---|---|---|---|
| 55ESS | For GE I-210+ series to Store and transmit data | 7/18/12 | National Grid |
| 56ESS | For GE I-210+ series to Store and transmit data | 7/18/12 | National Grid |
| 57ESS | For GE I-210+c series to Store and transmit data | 7/18/12 | National Grid |

***SCHLUMBERGER***

| | | | |
|---|---|---|---|
| R300 | Radio Frequency Meter Interface Unit Single Phase Version | 6/11/01 | Based on Similarity |
| R300C | Radio Frequency Meter Interface Unit Centron Version | 6/11/01 | Based on Similarity |
| R300V | Radio Frequency Meter Interface Unit Vectron Version | 6/11/01 | Based on Similarity |

***HUNT Technologies***

| | | | |
|---|---|---|---|
| TS1 and TS2 | RF Power Line Carrier Automatic Meter Reading Device | 4/11/06 | Hunt Technologies |

***Landis+Gyr***

| | | | |
|---|---|---|---|
| Comverge | Landis+Gyr Comverge Maingate AMR Module | 4/20/06 | National Grid |
| Metrum | Landis + Gyr Metrum OV2000IP | 9/27/10 | National Grid |
| Metrum | Utiliwise External Module | 6/18/12 | National Grid |

# AUTOMATIC METER READING DEVICE

***SILVER SPRING***

| | | |
|---|---|---|
| I-210+, GE Kv2c with remote disconnect | 6/18/09 | Con Edison |

***TRILLIANT NETWORKS***

| | | |
|---|---|---|
| Trilliant SecureMesh Communication Card<br>GE I-210+, Itron Centron, L+G Focus, Itron Sentinel | 10/19/09 | Central Hudson |
| Trilliant Cell Reader communication Card<br>GE kV2c+ | 3/28/11 | National Grid |