

INSTRUCTION MANUAL



KEPCO An ISO 9001 Company.

**KIT
219-0600**

WIRING KIT, REMOTE PROGRAMMING FOR SERIES HWS

1. DESCRIPTION.

Kepeco KIT, Model 219-0600 supplies a cable assembly that replaces the mating connector shipped with HWS 300W, 600W, 1000W and 1500W HWS Series power supplies. The mating connector that comes with the unit has pre installed jumpers that select local sensing and power supply ON (no remote on/off). Kepeco KIT, Model 219-0600 supplies a cable assembly comprised of a mating connector and pre installed wires that are pre-configured for local sensing, remote control inhibited (power supply on) and access to the PV (remote programming voltage), REF (reference voltage) and COM (return for PV and REF) terminals of the HWS power supply as shown in Figure 1.

2. MATERIAL SUPPLIED (SEE TABLE 1.)

Table 1 lists the contents of this kit.

TABLE 1. MATERIAL SUPPLIED

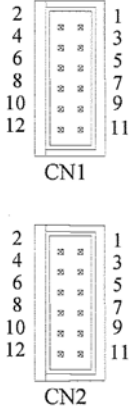
| ITEM | DESCRIPTION | KEPCO PART NUMBER | QUANTITY |
|---|--|-------------------|----------|
| Cable assembly comprised of mating connector to CN1 and CN2 with pre installed wires. | Mates with 12-pin power supply connector, CN1 and CN2. Three 24 AWG jumpers installed between pins 1 and 2, 3 and 4 (for local sensing) and 9 and 10 (power supply on). Three 24 AWG wires installed in pins 6, 7 and 8 provide access to PV and REF (remote programming) functions. Table 2 explains the functions of all CN1/CN2 pins. | 118-1357 | 1 |
| Instruction Sheet | Describes the contents and use of KIT 219-0600. | 228-1858 | 1 |

3. INSTALLATION

1. Refer to the appropriate chapter of the HWS instruction manual for connection and operation details applicable to the using the PV and REF functions. The instruction manual covering all models is available for download at www.tdk-lambda.com/products/sps/catalog/eng/hws.pdf
2. Remove the mating connector supplied with the power supply installed on CN1.
3. Connect the unterminated wires installed in pins 6, 7 and 8 of the cable assembly supplied in this kit as necessary for the desired function(s) per the downloaded instruction manual.
4. After connections are made, install mating connector of the cable assembly supplied in this kit on CN1 or CN2,

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TABLE 2. CN1, CN2, PIN FUNCTIONS

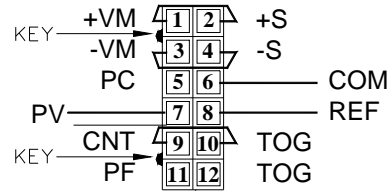
| Connector | Pin No. | Designation | Model | Function |
|---|---------|-------------|---|--|
|  | 1 | +Vm | All | +Output monitor terminal. Connected to +Output terminal. (+Vm terminal can not supply load current.) |
| | 2 | +S | All | Remote sensing terminal for +output. Remote sensing compensates for line drop between power supply terminals and load terminals. Connect to +Vm terminal when remote sensing function unnecessary. |
| | 3 | -Vm | All | -Output monitor terminal. Connected to -Output terminal. -Vm terminal can not supply load current. |
| | 4 | -S | All | Remote sensing terminal for -output. Remote sensing compensates for line drop between power supply terminals and load terminals. Connect to -Vm terminal when remote sensing function unnecessary. |
| | 5 | PC | All | Current balance terminal. For output current balancing in parallel operation. |
| | 6 | COM | All | Return for PC, PV, and REF signals (internally connected to -S). |
| | 7 | N.C. | HWS300, HWS600 (Note 4) | No Connection. |
| | | PV | HWS1000, HWS1500 | Remote programming voltage (PV) input; presents about 5 Kohm impedance with respect to pin 6 (COM). Pin 6 (COM) is internally connected to pin 4 (-S). (See Notes 1, 2 and 3.) |
| | 8 | N.C. | HWS300, HWS600 (Note 4) | No Connection. |
| | | REF | HWS1000, HWS1500 | Reference voltage source of about 4 to 7V @ 5 mA max, adjustable from the internal potentiometer. (See Notes 1, 2 and 3.) |
| | 9 | CNT | All | Remote ON/OFF control terminal. Power supply requires TTL low for ON. |
| | 10 | TOG | All | Return for CNT and PF signals. Isolated from unit output. (Same as Pin No.12.) |
| 11 | PF | All | Power fail signal (PF signal) output terminal. If the output voltage drops, or FAN stops and AC input voltage down, Power Fail terminal will output High. | |
| 12 | TOG | All | Return for CNT and PF signals. Isolated from unit output. (Same as Pin No.10.) | |

NOTES:

- Voltage Control using Internal Potentiometer Vadj. If pin 7 (PV) is connected to pin 8 (REF), Vadj can adjust HWS output voltage from 80% to 120% of nominal.
- Voltage Control using External Resistance. An external potentiometer (5 to 20 Kohms) can be connected between pin 8 (REF) and pin 6 (COM), with wiper connected to pin 7 (PV) to adjust output voltage from 20% to 120% of nominal when (REF) voltage is adjusted to about 6V using HWS internal potentiometer.
- Voltage Control using External Voltage Source. An external programming voltage from 0 to +6V applied between pin 7 (PV) and pin 6 (COM) adjusts output voltage from 0% to 120% of nominal. A +5V programming voltage programs the HWS module to nominal output voltage ±2%. To reach 0V connect the anode of a blocking diode in series with the + output; connect local sense wire from cathode of the blocking diode to +S.
- For the models listed in Table 4, configuration and function of pins 7 and 8 is the same as shown above for HWS1000 and HWS1500 models:

NOTES:

1. OBSERVE LOCATION OF KEYS TO ENSURE PIN NUMBERS ARE CORRECT.
2. WIRES SHOWN INSTALLED FOR LOCAL SENSING: PINS 1-2 AND 3-4.
3. WIRE SHOWN INSTALLED FOR REMOTE OPERATION INHIBITED (POWER SUPPLY ON): PINS 9-10.
4. WIRES SHOWN INSTALLED AT PINS 6, 7 AND 8 TO BE CONNECTED BY USER.



(1), P/N 518-0123
12 PIN CONNECTOR
(NOTE LOCATION OF KEYS)

3044065

FIGURE 1. MATING CONNECTOR FOR CN1 (SUPPLIED WITH KIT)

TABLE 3. FUNCTIONS SUPPORTED BY KIT 219-0600

| Function Supported ⁽¹⁾ | Power Supply Connector CN1 ⁽¹⁾ | |
|---------------------------------------|---|-------------------------------|
| | From Pin | To Pin |
| Local Sense ⁽²⁾ | 1 (+VM) | 2 (+S) |
| | 3 (-VM) | 4 (-S) |
| Power Supply ON (no remote enable) | 9 (CNT) | 10 (TOG) |
| Voltage Programming ⁽⁴⁾ | 7 (PV) ⁽⁴⁾ | User equipment ⁽³⁾ |
| | 8 (REF) ⁽⁴⁾ | User equipment ⁽³⁾ |
| Resistance Programming ⁽⁴⁾ | 7 (PV) ⁽⁴⁾ | User equipment ⁽³⁾ |
| | 8 (REF) ⁽⁴⁾ | User equipment ⁽³⁾ |
| | 6 (COM) | User equipment ⁽³⁾ |

(1) Use KIT 219-0594 for non-supported functions: remote sensing, remote on-off, power fail and current share.
 (2) Mating connector for CN1/CN2 with jumpers pre installed is supplied with the lit.
 (3) See referenced Instruction Manual for connections.
 (4) Voltage or resistance programming available only for HWS1000 and HWS1500 models and the additional models listed in Table 4. Refer to Notes 1, 2, and 3 of Table 2 for connection details.

TABLE 4. HWS300 AND HWS600 MODELS WITH VOLTAGE PROGRAMMING

| Voltage | HWS300 | HWS600 |
|---------|-----------------|-----------------|
| 5V | HWS300-5-27311 | N/A |
| 12V | HWS300-12-27312 | HWS600-12-27316 |
| 15V | HWS300-15-27313 | HWS600-12-27317 |
| 24V | HWS300-24-27314 | HWS600-24-27318 |
| 48V | HWS300-48-27315 | HWS600-48-27319 |