

## Thermometer and T/C Calibrator

### ESCORT-22 / 21 / 20

#### Features

##### ESCORT-22/21 T/C Calibrator

- Simulate 13 types thermocouple and mV output with 0.03% accuracy
- Measures current Simultaneously. (ESCORT-21 only)
- Measures 13 types thermocouple and mV output simultaneously (ESCORT-22 only)
- Scan/Ramp output
- Transmitter simulation:
- Measures(0~100%)/Output(0~1V)
- DC 24V Loop power (ESCORT-21 only)
- Data logging for measurement function
- External RTD sensor for cold junction compensation
- ITS-90 / IEC-60584 thermocouples
- Dual display with five digit resolution
- Audible alert for high/Low limit function
- EL back light

##### ESCORT-20 13-Type Thermometer

- Thirteen types J, K, T, E, R, S, B, N, G, C, D, U, L selectable
- mV/V/Temperature measurement
- Power by battery or external adapter
- Audible warning for High/ Low limit function
- Alarm output to control external device for High/Low/ limit function
- 0.1° resolutions
- °C/°F displays
- Dual inputs T1, T2, or T1-T2 measurements
- ITS-90/IEC-60584 thermocouples
- Data Logging
- Max, AVG, MIN recording
- Data Hold
- Relative mode
- Dual display with EL back-lit
- Auto power off
- Optical RS-232C interface



ESCORT-22 ESCORT-21 ESCORT-20

#### Ordering Information

##### Standard Accessories:

- 9V Alkaline Battery
- DP-26 k-type Thermo-Couple Adaptor(ESCORT-20/22)
- DP-27 k-type Thermo-Couple Probe(ESCORT-20/22)
- EH-90G Protective Holster
- TL-21 Leads with alligator clips
- Manual

##### Optional Accessories:

- EA-55A AC 220V, 12V/300mA adapter
- CP-06 Communication Package(ESCORT-20)
- DP-31 k-type Immersion Probe
- DP-32 k-type Air Probe
- DP-33 k-type Surface Probe(ESCORT-20, 22 only)
- DP-36 Dual Input k-type Thermo-Couple Adaptor
- TP-01 Thermocouple probe(ESCORT-20)
- TP-RIK Pt-385/1k (RTD Probe, Stainless)

| Thermocouple Output and Measurement (Measurement only for ESCORT-22/20, output only for ESCORT 21/22) |                                                                               |       |                |                       |                      |
|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------|----------------|-----------------------|----------------------|
| Type                                                                                                  | (°C)                                                                          | Range | (°F)           | Resolution (°C or °F) | Accuracy ± (°% + °C) |
| J                                                                                                     | -210~0                                                                        |       | -346~32        | 0.1                   | 0.03%+1.0            |
|                                                                                                       | 0~1200                                                                        |       | 32~2192        |                       | 0.03%+0.6            |
| K                                                                                                     | -200~0                                                                        |       | -328~32        | 0.1                   | 0.03%+1.0            |
|                                                                                                       | 0~1372                                                                        |       | 32~2502        |                       | 0.03%+0.6            |
| E                                                                                                     | -200~0                                                                        |       | -328~32        | 0.1                   | 0.03%+1.0            |
|                                                                                                       | 0~1000                                                                        |       | 32~1832        |                       | 0.03%+0.6            |
| T                                                                                                     | -200~0                                                                        |       | -328~32        | 0.1                   | 0.03%+1.0            |
|                                                                                                       | 0~400                                                                         |       | 32~752         |                       | 0.03%+0.6            |
| R                                                                                                     | -50~1768                                                                      |       | -58~3214       | 1                     | 0.03%+1.0            |
| S                                                                                                     | -50~1768                                                                      |       | -58~3214       | 1                     | 0.03%+1.0            |
| B                                                                                                     | 300~1820                                                                      |       | 572~3308       | 1                     | 0.03%+2.0            |
| N                                                                                                     | -200~0                                                                        |       | -328~32        | 0.1                   | 0.03%+1.5            |
|                                                                                                       | 0~1300                                                                        |       | 32~2372        |                       | 0.03%+1.0            |
| G                                                                                                     | 0~2320                                                                        |       | 32~4208        | 1                     | 0.03%+2.0            |
| C                                                                                                     | 0~2320                                                                        |       | 32~4208        | 1                     | 0.03%+2.0            |
| D                                                                                                     | 0~2320                                                                        |       | 32~4208        | 1                     | 0.03%+2.0            |
| U                                                                                                     | -200~0                                                                        |       | -328~32        | 0.1                   | 0.03%+1.0            |
|                                                                                                       | 0~600                                                                         |       | 32~1112        |                       | 0.03%+0.6            |
| L                                                                                                     | -200~0                                                                        |       | -328~32        | 0.1                   | 0.03%+1.0            |
|                                                                                                       | 0~900                                                                         |       | 32~1650        |                       | 0.03%+0.6            |
| Environment Temperature Measurement                                                                   |                                                                               |       |                |                       |                      |
| Cold Junction Type                                                                                    |                                                                               |       |                |                       |                      |
| Cold Junction Type                                                                                    | Range                                                                         |       | Resolution     |                       | Accuracy             |
| External                                                                                              | 0~40°C                                                                        |       | 0.1°C          |                       | ±0.03+0.9°C          |
| Pt 385 / 1kΩ                                                                                          | -20~250°C                                                                     |       | 0.1°C          |                       | ±0.03+1.2°C          |
| DCV Output (ESCORT-22/21 only)                                                                        |                                                                               |       |                |                       |                      |
| Range                                                                                                 | Resolution                                                                    |       | Accuracy       |                       | Max. input voltage   |
| -10mV~110mV                                                                                           | 0.01mV                                                                        |       | 0.03%+3        |                       | 30V                  |
| -0.1V~1.1V                                                                                            | 0.1mV                                                                         |       | 0.03%+3        |                       | 30V                  |
| DCV Measurement (ESCORT-22/20 only)                                                                   |                                                                               |       |                |                       |                      |
| Rang (Auto)                                                                                           | Resolution                                                                    |       | Accuracy       |                       | Max. input voltage   |
| 100.00mV                                                                                              | 0.01mV                                                                        |       | 0.03%+3        |                       | 30V                  |
| 1.0000V                                                                                               | 0.1mV                                                                         |       | 0.03%+3        |                       | 30V                  |
| Loop Power (ESCORT-21 only)                                                                           |                                                                               |       |                |                       |                      |
| Output Value                                                                                          | Loading                                                                       |       | Accuracy       |                       | Max. input voltage   |
| 24V                                                                                                   | >1kΩ                                                                          |       | ±10%           |                       | 30V                  |
| DC mA Measurement (ESCORT-21 only)                                                                    |                                                                               |       |                |                       |                      |
| Range                                                                                                 | Resolution                                                                    |       | Accuracy       |                       | Max. input voltage   |
| 20.000mA                                                                                              | 1μA                                                                           |       | 0.03%+3        |                       | <0.1 (typical), 1Ω   |
| 200.00mA                                                                                              | 10μA                                                                          |       | 0.03%+3        |                       | <0.1 (typical), 1Ω   |
| Alarm Output (ESCORT-20 only)                                                                         |                                                                               |       |                |                       |                      |
| Ext. Supply Vcc                                                                                       | Current Limit                                                                 |       | High/Low Level |                       | Max. input voltage   |
| 3~24V                                                                                                 | 0.01mA~3mA                                                                    |       | >2/3Vcc        |                       | 30V                  |
| General Specifications                                                                                |                                                                               |       |                |                       |                      |
| Display                                                                                               | Both lower and upper displays have 5 digits LCD Automatic polarity indication |       |                |                       |                      |
| Measuring rate                                                                                        | 1 time per second                                                             |       |                |                       |                      |
| Safety                                                                                                | Design to meet LVD (IEC -1010-1, EMS), ULc                                    |       |                |                       |                      |
| Operating Temp.                                                                                       | 0°C~+40°C, 0~80%RH                                                            |       |                |                       |                      |
| Power Supply                                                                                          | Single 9V Carbon-zinc or Alkaline battery                                     |       |                |                       |                      |
| Battery Life                                                                                          | >25 Hours                                                                     |       |                |                       |                      |
| Dimensions (L x W x H)                                                                                | 192×90×37mm (with Holster)                                                    |       |                |                       |                      |
| Weight                                                                                                | 1,240g with standard accessories                                              |       |                |                       |                      |

All specifications are subject to be changed by ESCORT without notice.