

## CONTROLS

---

μC sistema



e-dronic solution



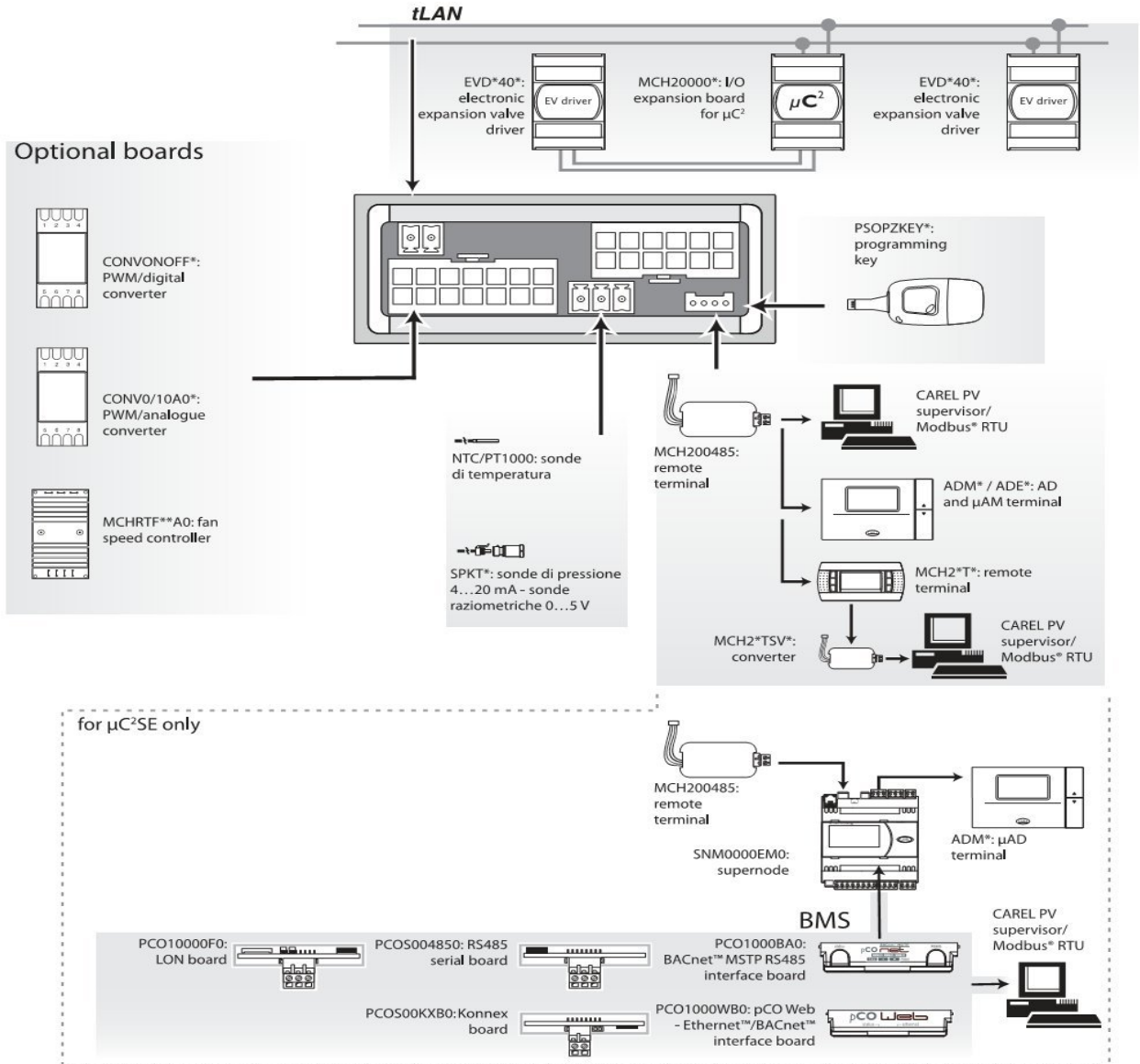
Solution for the control of small air handling units and large fan coils



# CONTROLS

## μC sistema

### OVERVIEW DRAWING μGEO / μC<sup>2</sup>SE



# CONTROLS

Controller for Chiller  
Air-Conditioning Listed Price 2014



## uC2

Listed Price (Baht)

| <b>uC2 : control of single and two-circuit units with up to 4 compressors</b> |  |       |
|---|--|-------|
| MCH2000010  | uC2 DIN version, single circuit, 2 compressors                                 | 6,000 |
| MCH2000030  | uC2SE panel version, single circuit, 2 compressors                             | 5,800 |
| MCH2001030  | uC2SE with RTC , panel version, single circuit, 2 compressors                  | 5,800 |
| <b>I/O expansion for the second circuit for uC2</b>                           |  |       |
| MCH2000020  | I/O expansion board for the second circuit                                     | 5,400 |
| <b>Accessories for uC2 and uC2SE</b>  |  |       |
| <b>Cable kits</b>   |  |       |
| MCHSMLCAB0  | Kit of 24 cables, L= 1m  | 400   |
| <b>Output signal converters</b>   |  |       |
| CONV0/10A0  | Module for PWM signal conversion into analogue output<br>0 to 10V or 4 to 20mA | 2,150 |
| CONVONOFF0  | Module for PWM signal conversion into ON/OFF relay output                      | 1,500 |
| <b>Miscellaneous</b>  |  |       |
| MCH2004850  | RS485 serial card for panel version  | 2,100 |
| FCSER00000  | RS485 serial card for DIN version  | 1,550 |
| PSOPZKEYA0  | Parameter programming with external 230 Vac power supply                       | 3,000 |
| <b>Remote user interface</b>  |  |       |
| MCH200TP00  | uC2 remote terminal for panel, flush-mount installation                        | 8,900 |
| MCH200TW00  | uC2 remote terminal for wall-mounting  | 8,900 |
| <b>NTC sensors and sockets</b>  |  |       |
| NTC0150055  | IP68, 1.5 m cable, (-50)-105°C (on air)  | 250   |
| NTC015WH01  | IP68, 1.5 m cable, (-50)-105°C (on air)  | 250   |
| NTC0300055  | IP68, 3.0 m cable, (-50)-105°C (on air)  | 320   |
| NTC030WH01  | IP68, 3.0 m cable, (-50)-105°C (on air)  | 320   |
| NTC060WP00  | IP68, 6.0m. Cable, -50   | 450   |
| 1413306AXX  | Brass socket : 8x60 mm, 1/4" GAS fittings for NTC/PTC, WP sensors              | 400   |
| 1413309AXX  | Stainless steel socket : 8x60 mm, 1/4" GAS fittings for NTC/PTC sensors        | 800   |

# CONTROLS

pCO sistema



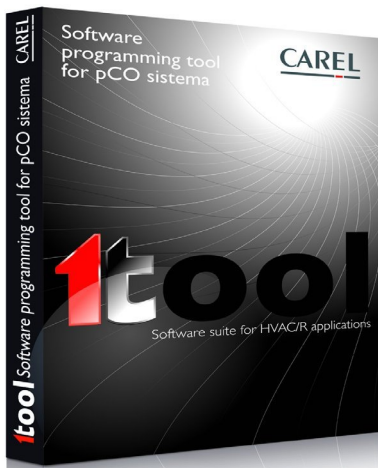
pCO sistema unit terminals



pCO sistema: room terminals



pCO sistema software applications



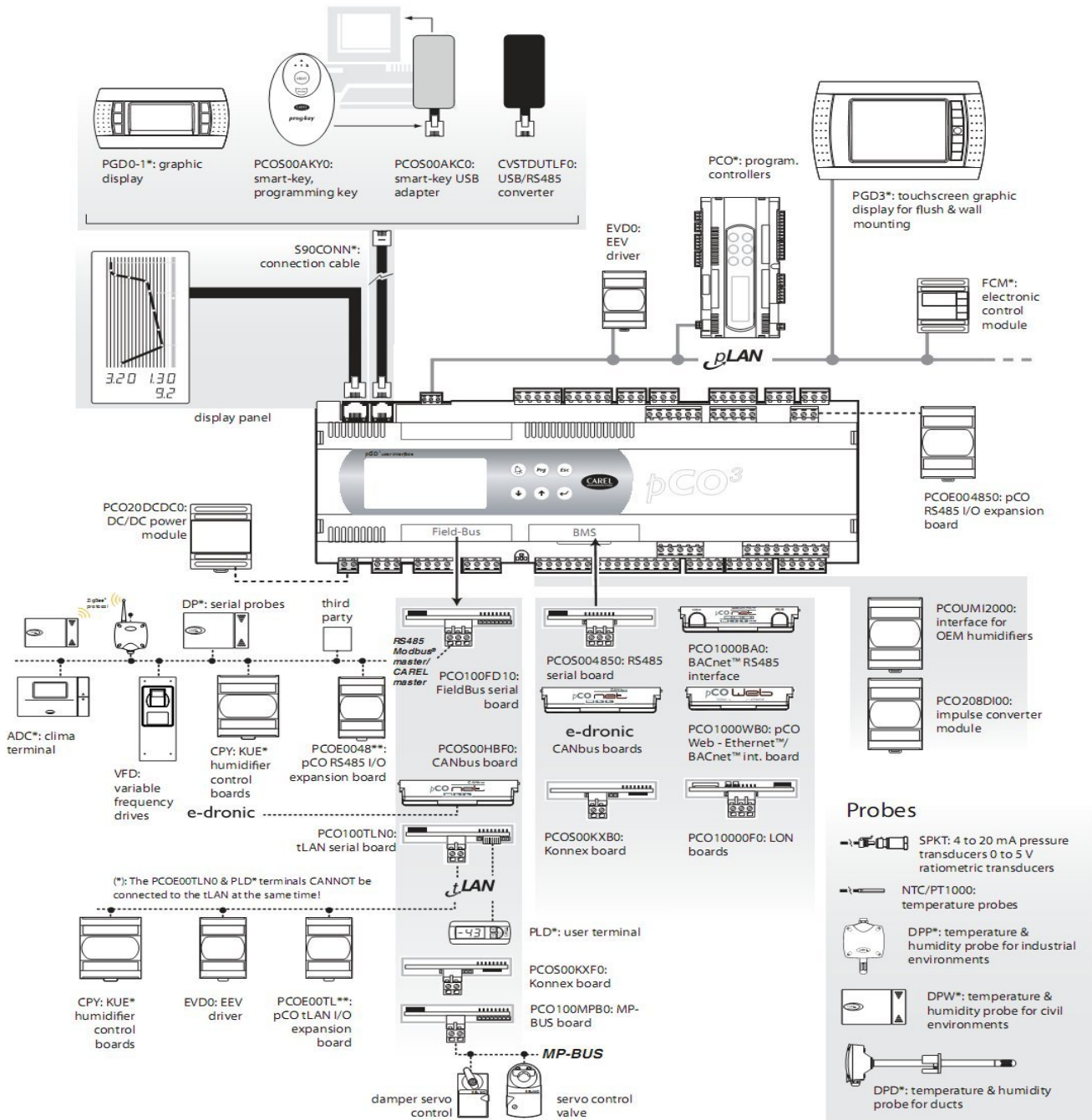
KUE series OEM humidifiers kits: electronic components



# CONTROLS

## pCO<sup>3</sup>

### OVERVIEW DRAWING pCO<sup>3</sup>



# CONTROLS

Controller for Chiller  
Air-Conditioning Listed Price 2014



## pCO3

Listed Price (Baht)

| <b>pCO3 : control board, no built-in display</b>   |   |        |
|--|---|--------|
| PCO3000AS0   | Small version, 4MB Flash memory                               | 21,800 |
| PCO3000AM0   | Medium version, 4MB Flash memory                              | 28,900 |
| PCO3000AL0   | Large version, 4MB Flash memory                               | 34,200 |
| <b>pCO3 : control board, pGD1 built-in display</b> |   |        |
| PCO3000ES0   | Small version, 4MB Flash memory                               | 29,500 |
| PCO3000EM0   | Medium version, 4MB Flash memory                              | 37,500 |
| PCO3000EL0   | Large version, 4MB Flash memory                               | 43,500 |
| <b>pCO3 options</b>                                |   |        |
| <b>Removable connector kits for pCO3</b>           |   |        |
| PCO3CON0S0   | Screw version for pCO3 Small                                  | 600    |
| PCO3CON0M0   | Screw version for pCO3 Medium                                 | 950    |
| PCO3CON0L0   | Screw version for pCO3 Large                                  | 1,250  |
| <b>BMS serial cards</b>                            |   |        |
| PCOS004850   | Optocoupled RS485 serial board                                | 6,000  |
| PCO10000F0   | LON FTT10 serial interface                                    | 9,000  |
| PCO10001F0   | LON FTT10 serial interface, standard chiller profile          | 9,000  |
| PCO1000WB0   | pCOWEB, Ethernet serial card                                  | 17,400 |
| PCO1000BA0   | pCOnet BACnet MS/TP RS485 serial card                         | 13,200 |
| PCOS00KXB0   | KONNEX serial card  | 11,000 |
| <b>FieldBus serial cards for pCO sistema</b>       |   |        |
| PCO100FD10   | Optocoupled RS485 serial board                                | 4,800  |
| PCO100TLN0   | tLAN serial card  | 1,600  |
| PCO100MPB0   | MP-BUS serial card  | 1,600  |
| PCOS00HBF0   | CANbus board for e-dronic                                     | 5,700  |
| PCOS00KXF0   | KONNEX serial card  | 10,850 |
| <b>Miscellaneous</b>                               |   |        |
| PCOE004850   | RS485 I/O expansion board                                     | 7,200  |
| PCOE00TLN0   | tLAN expansion board  | 6,300  |
| PCOS00AKY0   | Smart Key pCO sistema   | 6,500  |
| PCOS00AKC0   | USB key Adapter with Telephone connector for connection to PC | 8,200  |
| PCO208DI00   | Pulse divider board   | 3,750  |
| PCO20DCDC0   | DC/DC converter, 48Vdc/24Vdc or 48Vdc/30Vdc                   | 6,550  |

# CONTROLS

---

Controller for Chiller  
Air-Conditioning Listed Price 2014



| <b>pGD User interface</b>                                |   | <b>Listed Price (Baht)</b> |
|--|---|----------------------------|
| <b>pGD touch terminals</b>                               |   |                            |
| PGDT04000F020  | 4.3", flush mounting, 1 RS485 opto-insulated, 1 USB, 2 Ethernet   | 25,000                     |
| PGDTM7000FR10  | 7", flush mounting, 2 RS485 ports, 1 USB port, 1 Ethernet port    | 48,000                     |
| PGDTM1000FR10  | 10.4", flush mounting, 2 RS485 ports, 1 USB port, 1 Ethernet port | 90,000                     |
| <b>pGD touch accessories</b>                             |   |                            |
| PGTA00TRF0   | 230 Vac - 24 Vac/Vdc power supply (for 7" and 10.4" only)         | 3,000                      |
| PGTA00CNV0   | 9 pin - 3 wires cable adapter (for 7" and 10.4" only)             | 2,100                      |
| <b>pGD panel and flush mount version</b>                 |   |                            |
| PGD0000F00   | pGD0 LCD, 120x32 pixels   | 9,500                      |
| PGD1000FW0   | pGD1 LCD, 132x64 pixels, white backlit                            | 11,400                     |
| PGD1000I00   | pGD1 LCD, 132x64 pixels, with pCOI case                           | 14,500                     |
| <b>Accessories for pGD panel and flush mount version</b> |   |                            |
| FLAT6CABLE   | Telephone connectors (per meter)                                  | 30                         |

# CONTROLS

---

## Universal controllers





# CONTROLS

Temperature, humidity and pressure controls solutions  
Air-Conditioning Listed Price 2014



## ir33 Universal

Listed Price (Baht)

| <b>ir33 universal panel mounting: 2 inputs for NTC/PTC/Pt1000, 1 DO, buzzer, IR sensor</b>        |  |       |
|---|--|-------|
| IR33V7HR201   | relay version, 115-230Vac                            | 3,800 |
| IR33V7HB20  | 1 relay version, 115-230Vac, RTC                     | 4,600 |
| <b>ir33 universal panel mounting: 2 inputs for NTC/PTC/Pt1000, 2 DO, buzzer, IR sensor</b>        |  |       |
| IR33W7HR202   | relay version, 115-230Vac                            | 4,500 |
| IR33W7HB20  | 2 relay version, 115-230Vac, RTC                     | 5,100 |
| <b>ir33 universal panel mounting: 2 inputs for NTC/PTC/Pt1000, 4 DO, buzzer, IR sensor</b>        |  |       |
| IR33Z7HR20  | 4 relay version, 115-230Vac                          | 5,100 |
| IR33Z7HB20  | 4 relay version, 115-230Vac, RTC                     | 5,800 |
| <b>ir33 universal panel mounting: 2 inputs for NTC/PTC/Pt1000, 1 DO + 1 AO, buzzer, IR sensor</b> |  |       |
| IR33B7HR20  | 1 relay + 1 output 0-10 Vdc version, 115-230Vac      | 4,800 |
| IR33B7HB20  | 1 relay + 1 output 0-10 Vdc version, 115-230Vac, RTC | 5,580 |
| <b>ir33 universal panel mounting: 2 inputs for NTC/PTC/Pt1000, 2 DO + 2 AO, buzzer, IR sensor</b> |  |       |
| IR33E7HR20  | 2 relay + 2 output 0-10 Vdc version, 115-230Vac      | 5,500 |
| IR33E7HB20  | 2 relay + 2 output 0-10 Vdc version, 115-230Vac, RTC | 6,250 |
| <b>ir33 Universal : 2 Multi-input</b>   |  |       |
| <b>ir33 universal panel mounting: 2 Multi-input, 1 DO, buzzer, IR sensor</b>                      |  |       |
| IR33V9HR20  | 1 relay version, 115-230Vac                          | 5,100 |
| IR33V9HB20  | 1 relay version, 115-230Vac, RTC                     | 5,800 |
| <b>ir33 universal panel mounting: 2 Multi-input, 2 DO, buzzer, IR sensor</b>                      |  |       |
| IR33W9HR20  | 2 relay version, 115-230Vac                          | 5,600 |
| IR33W9HB20  | 2 relay version, 115-230Vac, RTC                     | 6,300 |
| <b>ir33 universal panel mounting: 2 Multi-input, 4 DO, buzzer, IR sensor</b>                      |  |       |
| IR33Z9HR20  | 4 relay version, 115-230Vac                          | 6,250 |
| IR33Z9HB20  | 4 relay version, 115-230Vac, RTC                     | 7,000 |
| <b>ir33 universal panel mounting: 2 Multi-input, 1 DO + 1 AO, buzzer, IR sensor</b>               |  |       |
| IR33B9HR20  | 1 relay + 1 output 0-10 Vdc version, 115-230Vac      | 6,000 |
| IR33B9HB20  | 1 relay + 1 output 0-10 Vdc version, 115-230Vac, RTC | 6,800 |
| <b>ir33 universal panel mounting: 2 Multi-input, 2 DO + 2 AO, buzzer, IR sensor</b>               |  |       |
| IR33E9HR20  | 2 relay + 2 output 0-10 Vdc version, 115-230Vac      | 6,750 |
| IR33E9HB20  | 2 relay + 2 output 0-10 Vdc version, 115-230Vac, RTC | 7,450 |

# CONTROLS

Temperature, humidity and pressure controls solutions  
Air-Conditioning Listed Price 2014



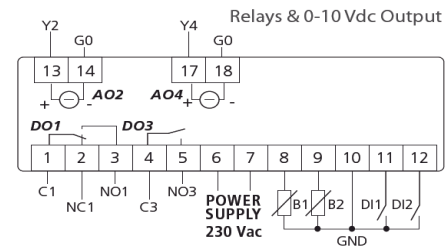
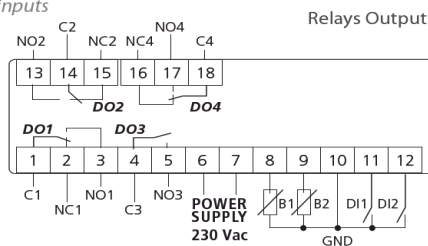
## Accessories for ir33 Universal

Listed Price (Baht)

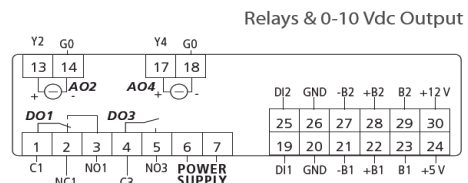
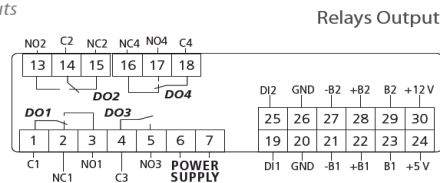
### Miscellaneous

|            |   |       |
|------------|---|-------|
| IRTRUES000 | Remote control for ir33 universal   | 950   |
| IROPZKEY00 | Parameter programming key for ir33 platform with 12Vac batteries                              | 3,000 |
| IROPZKEYA0 | Parameter programming key for ir33 platform, 230 Vac power supply                             | 3,000 |
| IROPZ48500 | RS485 serial card for ir33  | 1,500 |
| IROPZ485S0 | RS485 serial card for ir33, automatic recognition RX-TX                                       | 1,800 |
| CONV0/1L00 | Power supply module (from 24 Vac to 24 Vdc)<br>and signal converter (from 0-10Vdc to 0-1 Vdc) | 2,150 |
| CONV0/10A0 | Module for PWM signal conversion into analogue output 0-10V or 4-20mA                         | 2,150 |
| CONVONOFF0 | Module for PWM signal conversion into ON/OFF relay output                                     | 1,500 |

temperature inputs



universal inputs



# CONTROLS

---

## Sensors and protection devices



# CONTROLS

Sensors and protection devices  
Air-Conditioning Listed Price 2014



## Sensors and protection devices

### Temperature and humidity sensors

| <b>Active wall mounting sensors, selectable output : (-0.5)-1 Vdc and 4-20mA</b>               |  | <b>Listed Price (Baht)</b> |
|--|--|----------------------------|
| DPWT010000   | Temperature (-10)-60°C   | 3,650                      |
| DPWT011000   | Temperature (-10)-60°C (output CAREL NTC sensor only)                          | 1,500                      |
| DPWC111000   | Temperature (-10)-60°C (output CAREL NTC sensor only) and humidity (10-90% rH) | 5,750                      |
| DPWC110000   | Temperature (-10)-60°C and humidity (10-90% rH)                                | 6,000                      |
| <b>Active wall mounting sensors, output : 0-10 Vdc</b>   |  |                            |
| DPWC115000   | Temperature (-10)-60°C (output CAREL NTC sensor only) and humidity (10-90% rH) | 5,000                      |
| DPWC112000   | Temperature (-10)-60°C and humidity (10-90% rH)                                | 6,000                      |
| <b>Active wall mounting sensors, output : serial RS485 opto-isolated</b>                       |  |                            |
| DPWC114000   | Temperature (-10)-60°C and humidity (10-90% rH)                                | 8,500                      |
| DPWT014000   | Temperature (-10)-60°C   | 5,900                      |
| <b>Active sensors for industrial environments, selectable output : (-0.5)-1 Vdc and 4-20mA</b> |  |                            |
| DPPT010000   | Temperature (-20)-70°C   | 4,300                      |
| DPPT011000   | Temperature (-20)-70°C (output CAREL NTC sensor only)                          | 2,200                      |
| DPPC111000   | Temperature (-10)-60°C (output CAREL NTC sensor only) and humidity (10-90% rH) | 11,000                     |
| DPPC110000   | Temperature (-10)-60°C and humidity (10-90% rH)                                | 11,000                     |
| DPPC210000   | Temperature (-20)-70°C and humidity (0-100% rH)                                | 15,000                     |
| <b>Active sensors for industrial environments, output : 0-10Vdc</b>                            |  |                            |
| DPPC112000   | Temperature (-10)-60°C and humidity (10-90% rH)                                | 9,600                      |
| DPPC212000   | Temperature (-20)-70°C and humidity (0-100% rH)                                | 15,000                     |
| <b>Active sensors for industrial environments, output : serial RS485 opto-isolated</b>         |  |                            |
| DPPT014000   | Temperature (-20)-70°C   | 7,750                      |
| DPPC114000   | Temperature (-10)-60°C and humidity (10-90% rH)                                | 11,000                     |
| DPPC214000   | Temperature (-20)-70°C and humidity (0-100% rH)                                | 19,000                     |
| <b>Active sensors for ducts, selectable output : (-0.5)-1 Vdc and 4-20mA</b>                   |  |                            |
| DPDT010000   | Temperature (-20)-70°C   | 4,850                      |
| DPDT011000   | Temperature (-20)-70°C (output CAREL NTC sensor only)                          | 3,750                      |
| DPDC111000   | Temperature (-10)-60°C (output CAREL NTC sensor only) and humidity (10-90% rH) | 11,000                     |
| DPDC110000   | Temperature (-10)-60°C and humidity (10-90% rH)                                | 11,000                     |
| DPDC210000   | Temperature (-20)-70°C and humidity (0-100% rH)                                | 15,500                     |

# CONTROLS

Sensors and protection devices  
Air-Conditioning Listed Price 2014



| <b>Active sensors for ducts, output : 0-10Vdc</b>                    |  | <b>Listed Price (Baht)</b> |
|--|--|----------------------------|
| DPDC112000   | Temperature (-10)-60°C and humidity (10-90% rH)          | 9,600                      |
| DPDC212000   | Temperature (-20)-70°C and humidity (0-100% rH)          | 15,000                     |
| <b>Active sensors for ducts, output : serial RS485 opto-isolated</b> |  |                            |
| DPDT014000   | Temperature (-20)-70°C                                   | 7,750                      |
| DPDC114000   | Temperature (-10)-60°C and humidity (10-90% rH)          | 11,000                     |
| DPDC214000   | Temperature (-20)-70°C and humidity (0-100% rH)          | 16,900                     |
| <b>Air quality sensors</b>   |  |                            |
| <b>Active duct sensors</b>   |  |                            |
| DPDQ306000   | VOC, 0-10 Vdc or 4-20 mA output                          | 18,300                     |
| DPDQ502000   | VOC and CO2, 0-10 Vdc output                             | 48,750                     |
| DPDQ402000   | CO2 air quality sensor, 0-10 Vdc output                  | 40,500                     |
| <b>Active room sensors</b>   |  |                            |
| DPWQ306000   | VOC, 0-10 Vdc or 4-20 mA output                          | 11,400                     |
| DPWQ502000   | VOC and CO2, 0-10 Vdc output                             | 34,500                     |
| DPWQ402000   | CO2 air quality sensor, 0-10 Vdc output                  | 24,500                     |
| <b>Gas detectors</b>   |  |                            |
| <b>Gas leakage detector</b>  |  |                            |
| DPWLA07000   | R22 semiconductor version                                | 21,600                     |
| DPWLB07000   | R134a semiconductor version                              | 21,600                     |
| DPWLC07000   | R404a semiconductor version                              | 21,600                     |
| DPWLD07000   | R407c semiconductor version                              | 21,600                     |
| DPWLE07000   | R410a semiconductor version                              | 21,600                     |
| DPWL417000   | CO2 infrared version                                     | 57,600                     |
| <b>Accessories for gas leakage detector</b>                          |  |                            |
| <b>Miscellaneous for gas leakage detector</b>                        |  |                            |
| DPWLKIT000   | Adapter for calibration (hose and hood)                  | 2,100                      |
| 6133015AXX   | Sensing element for HCFC's and HFC's gases semiconductor | 4,350                      |
| 6133016AXX   | Infrared sensing element for CO2 gas                     | 32,200                     |

# CONTROLS

Sensors and protection devices  
Air-Conditioning Listed Price 2014



## Sensors and protection devices

### Pressure transducers

Listed Price (Baht)

| <b>Pressure transducers : 1/4" SAE female fitting with deflector, 7/16" -20 UNF, Packard connector, ratiometric pressure transducers</b>             |   |        |
|--|---|--------|
| SPKT0053R0   | 0-5 Vdc, (-1)-4.2 bar (0-75 psiA)                           | 4,000  |
| SPKT0013R0   | 0-5 Vdc, (-1)-9.3 bar (0-150 psiA)                          | 4,000  |
| SPKT0033R0   | 0-5 Vdc, 0-34.5 bar (15-515 psiA)                           | 4,000  |
| SPKT0043R0   | 0-5 Vdc, 0-17.3 bar (15-265 psiA)                           | 4,000  |
| SPKT00B6R0   | 0-5 Vdc, 0-45.0bar (15-667 psiA)                            | 4,000  |
| SPKT00E6R0   | 0-5 Vdc, (-1)-12.8 bar (0-200 psiA)                         | 4,000  |
| SPKT00F6R0   | 0-5 Vdc, 0-20.7bar (15-315 psiA)                            | 4,000  |
| <b>Pressure transducers "C" : series Steel 1/4" SAE female fitting with deflector, 7/16" -20 UNF, Packard connector, 4-20mA pressure transducers</b> |   |        |
| SPKT0021C0   | (-0.5)-7 bar relative (7-116 psiA)                          | 4,500  |
| SPKT0011C0   | 0-10 bar relative (15-160 psiA)                             | 4,500  |
| SPKT0031C0   | 0-30 bar relative (15-450 psiA)                             | 4,500  |
| SPKT0041C0   | 0-18.2 bar relative (15-278 psiA)                           | 4,500  |
| SPKT00B1C0   | 0-44.8 bar relative (15-664 psiA)                           | 4,500  |
| SPKT00G1C0   | 0-60 bar relative (15-885 psiA)                             | 4,500  |
| <b>Pressure transducers : combined sensors : M12x1.25 male fitting, ratiometric pressure and NTC temperature transducers</b>                         |   |        |
| SPKP0017T0   | 0.4-9.3 bar relative (9-149 psiA)                           | 4,800  |
| SPKP0037T0   | 0.85-34.2 bar relative (26.8-510 psiA)                      | 4,800  |
| SPKP00B7T0   | 1.86-43 bar relative (41.4-638 psiA)                        | 4,800  |
| <b>Differential pressure transducers</b>   |   |        |
| SPKD00C5N0   | 0-50 Pa   | 11,800 |
| SPKD00U5N0   | 0-1000 Pa or 2500 Pa  | 11,800 |
| <b>Accessories for SPKT*</b>   |   |        |
| <b>Miscellaneous for SPKT*</b>   |   |        |
| SPKC002310   | IP67, 2 m cable with co-moulded Packard connector for SPKT* | 400    |
| SPKC005310   | IP67, 5 m cable with co-moulded Packard connector for SPKT* | 600    |
| <b>Accessories for SPKP*</b>   |   |        |
| <b>Miscellaneous for SPKP*</b>   |   |        |
| SPKC002600   | IP67, 2 m cable with Micro-Quadlok Tyco connector           | 600    |
| SPKC005600   | IP67, 5 m cable with Micro-Quadlok Tyco connector           | 900    |
| SPKPOPZ110   | Brass welding fitting, diam. 16 mm, female, 12x1.25         | 200    |

# CONTROLS

Sensors and protection devices  
Air-Conditioning Listed Price 2014



## Resistive temperature sensors

Listed Price (Baht)

### HP\* type NTC sensors

|            |   |     |
|------------|---|-----|
| NTC008HP00 | IP67, 0.8 m cable, (-50)-105°C (on air) | 180 |
| NTC015HP00 | IP67, 1.5 m cable, (-50)-105°C (on air) | 200 |
| NTC030HP00 | IP67, 3.0 m cable, (-50)-105°C (on air) | 250 |
| NTC060HP00 | IP67, 6.0 m cable, (-50)-105°C (on air) | 400 |

### WP\* type NTC sensors

|            |   |     |
|------------|---|-----|
| NTC0150055 | IP68, 1.5 m cable, (-50)-105°C (on air) | 250 |
| NTC015WH01 | IP68, 1.5 m cable, (-50)-105°C (on air) | 250 |
| NTC0300055 | IP68, 3.0 m cable, (-50)-105°C (on air) | 320 |
| NTC030WH01 | IP68, 3.0 m cable, (-50)-105°C (on air) | 320 |

### HF\* type NTC sensors

|            |  |     |
|------------|--|-----|
| NTC060HF01 | IP67, 6.0 m cable, (-50)-90°C STRAP-ON | 690 |
|------------|--|-----|

### HT\* type NTC sensors

|            |                            |     |
|------------|----------------------------|-----|
| NTC060HT00 | IP55, 6.0 m cable, 0-150°C | 600 |
|------------|----------------------------|-----|

### WG\* type NTC sensors

|            |   |     |
|------------|---|-----|
| NTC060WG00 | glass temperature probe, IP67, 6.0 m cable, (-50)-105°C | 950 |
|------------|---|-----|

### INF type NTC pass-through sensors

|            |  |       |
|------------|--|-------|
| NTCINF0600 | NTC sensor pass through, silicon cable 6 m, (-50)-90°C, IP67             | 2,300 |
| NTCINF0610 | NTC sensor pass through, silicon cable 6 m, (-50)-90°C, IP67 with handle | 3,100 |

# CONTROLS

---

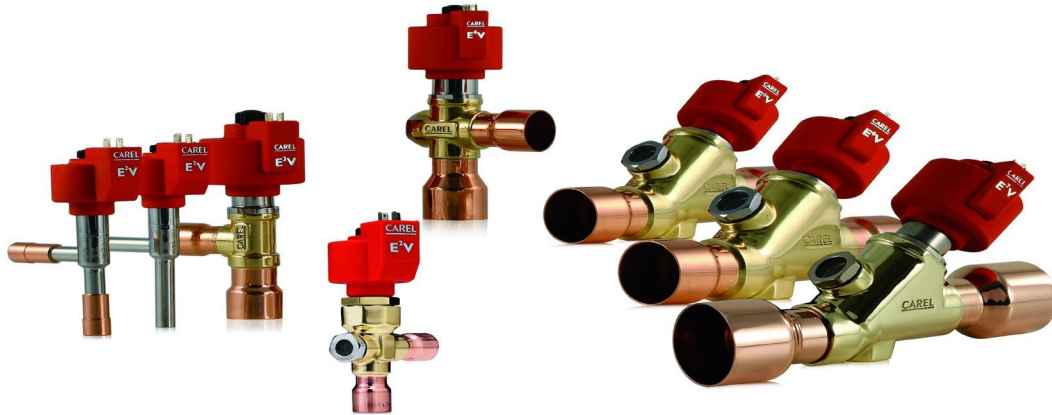
| <b>PTC sensors</b>               |   | <b>Listed Price (Baht)</b> |
|----------------------------------|---|----------------------------|
| PTC0150000                       | IP65, 1.5 m cable, 0-150°C  | 450                        |
| PTC015W000                       | IP67, 1.5 m cable, (-50)-100°C  | 450                        |
| <b>PT100 sensors</b>             |   |                            |
| PT100000A1                       | IP65, 6x100 mm bulb, 3 m cable, (-50)-250°C                             | 1,500                      |
| PT100000A2                       | IP65, 6x100 mm bulb, 3 m cable, (-50)-400°C                             | 1,400                      |
| <b>PT1000 sensors</b>            |   |                            |
| TSQ15MAB00                       | IP65, 150 mm bulb, ø 3 mm, (-50)-350°C                                  | 2,650                      |
| TSOPZFGD30                       | Sliding 1/4" GAS fitting for ø 3 mm.                                    | 1,050                      |
| TSOPZCV030                       | 3 m cable for PT1000 sensor   | 750                        |
| <b>Thermocouples</b>             |   |                            |
| TCJ0000001                       | Thermocouple J, IP67, 6x100 mm bulb, 3 m cable, 0-400°C                 | 960                        |
| TCK0000001                       | Thermocouple J, IP67, 6x100 mm bulb, 3 m cable, 0-800°C                 | 4,650                      |
| <b>Accessories for NTC/PTC</b>   |   |                            |
| <b>Miscellaneous for NTC/PTC</b> |   |                            |
| 1413306AXX                       | Brass socket : 8x60 mm, 1/4" GAS fittings for NTC/PTC, WP sensors       | 400                        |
| 1413309AXX                       | Stainless steel socket : 8x60 mm, 1/4" GAS fittings for NTC/PTC sensors | 800                        |



## CONTROLS

---

### Electronic expansion valves



### Drivers for electronic expansion valves



# CONTROLS

EXV system  
Air-Conditioning Listed Price 2014



## Electronic Expansion Valves

| <b>E2V</b>  |  | <b>Listed Price (Baht)</b> |
|---|--|----------------------------|
| <b>E2V smart bipolar with sight glass, detachable version</b> |  |                            |
| E2V09SSF00  | 12-12 ODF, copper connections, size 9        | 7,200                      |
| E2V11SSF00  | 12-12 ODF, copper connections, size 11       | 7,200                      |
| E2V14SSF00  | 12-12 ODF, copper connections, size 14       | 7,200                      |
| E2V18SSF00  | 12-12 ODF, copper connections, size 18       | 7,200                      |
| E2V24SSM00  | 16-16 ODF, copper connections, size 24       | 7,200                      |
| E2V30SSM00  | 16-16 ODF, copper connections, size 30       | 7,200                      |
| E2V35SSM00  | 16-16 ODF, copper connections, size 35       | 7,200                      |
| <b>E3V with sight glass, detachable version</b>               |  |                            |
| E3V45AWR10  | 3/4"-7/8"ODF, copper connections, size 45    | 14,500                     |
| E3V55ASS10  | 22-28 ODF, copper connections, size 55       | 15,500                     |
| E3V65AWR10  | 7/8"-1"1/8ODF, copper connections, size 65   | 16,500                     |
| <b>E4V with sight glass, detachable version</b>               |  |                            |
| E4V85AWT00  | 1"1/8-1"3/8 ODF, copper connections, size 85 | 20,000                     |
| E4V95AWT00  | 1"1/8-1"3/8 ODF, copper connections, size 95 | 21,500                     |
| <b>E5V with sight glass, detachable version</b>               |  |                            |
| E5VA5AST00  | 35-35 mm copper connections, size 150        | 29,500                     |
| <b>E6V with sight glass, detachable version</b>               |  |                            |
| E6VB2ASV00  | 42-42 mm copper connections, size 200        | 36,000                     |
| <b>E7V with sight glass, detachable version</b>               |  |                            |
| E7VC1ASZ00  | 54-54 mm copper connections, size 310        | 49,500                     |

# CONTROLS

EXV system  
Air-Conditioning Listed Price 2014

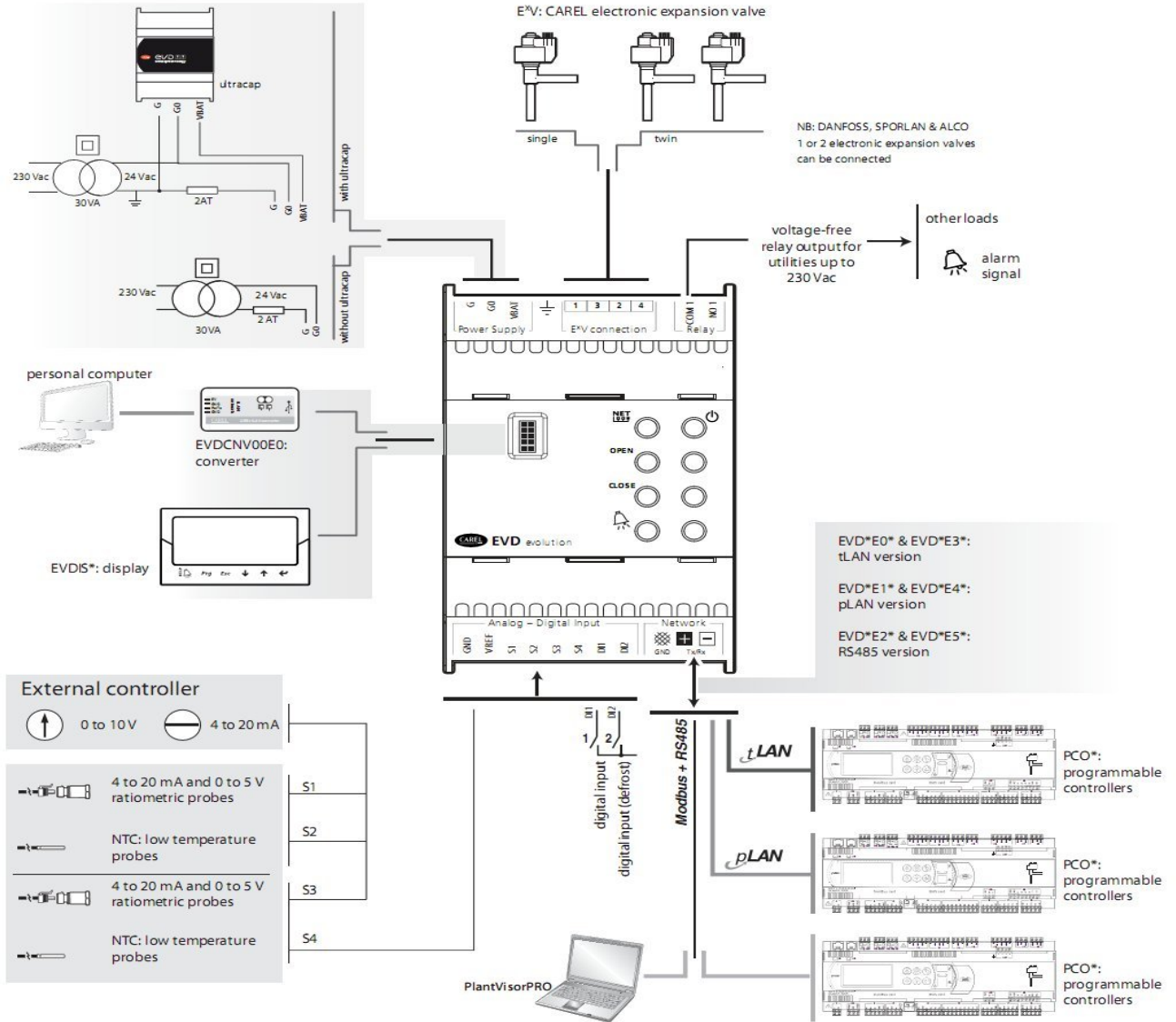


## Electronic Expansion Valves

| Accessories for ExV system |  | Listed Price (Baht) |
|----------------------------|--|---------------------|
| Miscellaneous              |  |                     |
| E2VFIL0500                 | Filter for E2V**S                                      | 36                  |
| E2VNUT0200                 | Spare part fastening nut for E2V**S                    | 100                 |
| E2VSGH0000                 | Sight flass for E2V**S                                 | 950                 |
| E2VCABS600                 | Shielded cable and connector for ExV, IP67, L=6m       | 1,350               |
| E2VSTA0200                 | E2V sparepart stator (coil) for E2V**B*                | 1,800               |
| E3VSTA0000                 | E3V sparepart stator (coil) for E3V**A*                | 3,300               |
| E4VSTA0000                 | E4V sparepart stator (coil) for E4V**A*                | 4,000               |
| E5VSTA0000                 | E5V sparepart stator (coil) for E5V**A*                | 4,000               |
| E6VSTA0000                 | E6V sparepart stator (coil) for E6V**A*                | 4,000               |
| E7VSTA0000                 | E7V sparepart stator (coil) for E7V**A*                | 4,000               |
| E2VORI0000                 | E2V teflon gasket kit including the sight glass o-ring | 125                 |
| E3VORI0000                 | E3V sparepart O-ring                                   | 125                 |
| E4VORI0000                 | E4V sparepart O-ring                                   | 160                 |
| E6VORI0000                 | E6V sparepart O-ring                                   | 160                 |
| E7VORI0000                 | E7V sparepart O-ring                                   | 160                 |
| E3VATT4500                 | E3V Actuator for E3V45A                                | 7,500               |
| E3VATT5500                 | E3V Actuator for E3V55A                                | 7,500               |
| E3VATT6500                 | E3V Actuator for E3V65A                                | 7,500               |
| E4VATT8500                 | E4V Actuator for E4V85A                                | 9,500               |
| E4VATT9500                 | E4V Actuator for E4V95A                                | 9,500               |
| E6VATTB200                 | E6V Actuator for E6VB2A                                | 11,200              |
| E7VATTC100                 | E7V Actuator for E7VC1A                                | 13,600              |

# CONTROLS

## OVERVIEW DRAWING EVD evolution



# CONTROLS

EXV system  
Air-Conditioning Listed Price 2014



## Driver for electronic expansion valves

| EVD evolution                                       |                                      | Listed Price (Baht) |
|---|--------------------------------------|---------------------|
| <b>EVD evolution for tLAN communication</b>         |                                      |                     |
| EVD0000E30  | for CAREL valve (tLAN)               | 8,000               |
| EVD0000T30  | twin for two CAREL valve (tLAN)      | 10,500              |
| EVD0000E00  | for Universal valve (tLAN)           | 9,500               |
| EVD0000T00  | twin for two Universal valve (tLAN)  | 16,000              |
| <b>EVD evolution for pLAN communication</b>         |                                      |                     |
| EVD0000E40  | for CAREL valve (pLAN)               | 8,000               |
| EVD0000T40  | twin for two CAREL valve (pLAN)      | 10,500              |
| EVD0000E10  | for Universal valve (pLAN)           | 9,500               |
| EVD0000T10  | twin for two Universal valve (pLAN)  | 16,000              |
| <b>EVD evolution for RS485/Modbus communication</b> |                                      |                     |
| EVD0000E50  | for CAREL valve                      | 8,000               |
| EVD0000T50  | twin for two CAREL valve             | 10,500              |
| EVD0000E20  | for Universal valve                  | 9,500               |
| EVD0000T20  | twin for two Universal valve         | 16,000              |
| <b>Accessories and display for EVD evolution</b>    |                                      |                     |
| <b>Display for EVD evolution</b>                    |                                      |                     |
| EVDIS00EN0  | in English                           | 6,000               |
| <b>Miscellaneous</b>                                |                                      |                     |
| EVD CNV00E0   | USB/tLAN converter for EVD evolution | 5,000               |
| EVD0000UC0  | Ultracap module for EVD Evolution    | 7,200               |

# CONTROLS

ir33



easy series



Solution for blast chillers



Plug-in



Refrigeration controllers for cold rooms



Datalogger



# CONTROLS

Refrigeration controllers  
Refrigeration Listed Price 2014



easy

Listed Price (Baht)

**easy thermometer, panel mounting**

|            |  |       |
|------------|--|-------|
| PJEZM0N010 | 230Vac, 2NTC probe, 1 DI with screw terminal block | 1,000 |
|------------|--|-------|

**powerline : 230 Vac power supply, top version, quick mounting and removal terminals, buzzer**

|            |   |       |
|------------|---|-------|
| PJEZS0H000 | 1 relay: comp 2 HP, 2 NTC probes, 1 DI                          | 1,600 |
| PJEZY0H000 | 2 relay: comp 2 HP, def (8A), 2 NTC probes, 1 DI                | 1,800 |
| PJEZC0H000 | 3 relay: comp 2 HP, def (8A), fan (8A), 2 NTC probes, 1 DI      | 2,000 |
| PJEZC0M000 | 3 relay: comp 2 HP, def (8A), fan (8A), 2 NTC probes, 1 DI, RTC | 3,000 |

**Accessories for PJ easy**

**Miscellaneous**

|            |  |       |
|------------|--|-------|
| IROPZKEY00 | Parameter programming with 12 Vac batteries included     | 3,000 |
| IROPZKEYA0 | Parameter programming with external 230 Vac power supply | 3,000 |
| IROPZ48500 | RS485 serial card for ir33                               | 1,500 |

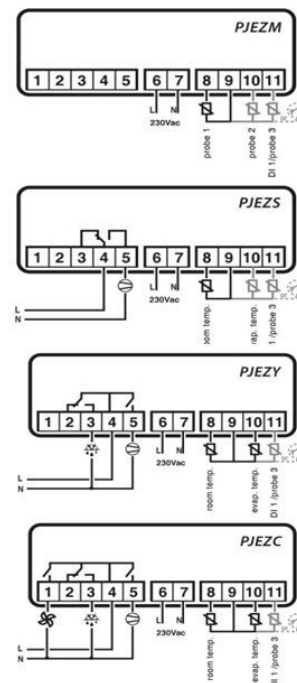
**NTC sensors**

|            |   |     |
|------------|---|-----|
| NTC015HP00 | IP67, 1.5 m cable, (-50)-105°C (on air) | 200 |
| NTC030HP00 | IP67, 3.0 m cable, (-50)-105°C (on air) | 250 |
| NTC0150055 | IP68, 1.5 m cable, (-50)-105°C (on air) | 250 |
| NTC015WH01 | IP68, 1.5 m cable, (-50)-105°C (on air) | 250 |
| NTC0300055 | IP68, 3.0 m cable, (-50)-105°C (on air) | 320 |
| NTC030WH01 | IP68, 3.0 m cable, (-50)-105°C (on air) | 320 |

| code       | power supply (Vac) | input            |                     |        | output        |            |         | plus            |                  |        | option              |     |             |       |
|------------|--------------------|------------------|---------------------|--------|---------------|------------|---------|-----------------|------------------|--------|---------------------|-----|-------------|-------|
|            |                    | room temperature | defrost temperature | probe3 | digital input | compressor | defrost | evaporating fan | frontal mounting | buzzer | removable terminals | RTC | program key | RS485 |
| PJEZM0N010 | 230                | ●                | ●                   | △      | △             |            |         |                 | ●                | ●      |                     |     | ○           | ○     |
| PJEZS0H000 | 230                | ●                | ●                   | △      | △             | 2Hp        |         |                 | ●                | ●      | ●                   |     | ○           | ○     |
| PJEZY0H000 | 230                | ●                | ●                   | △      | △             | 2Hp        | 8A      |                 | ●                | ●      | ●                   |     | ○           | ○     |
| PJEZC0H000 | 230                | ●                | ●                   | △      | △             | 2Hp        | 8A      | 8A              | ●                | ●      | ●                   |     | ○           | ○     |
| PJEZC0M000 | 230                | ●                | ●                   | △      | △             | 2Hp        | 8A      | 8A              | ●                | ●      | ●                   | ●   | ○           | ○     |

△ เลือกใช้ได้โดยอัตโนมัติ (selectable)

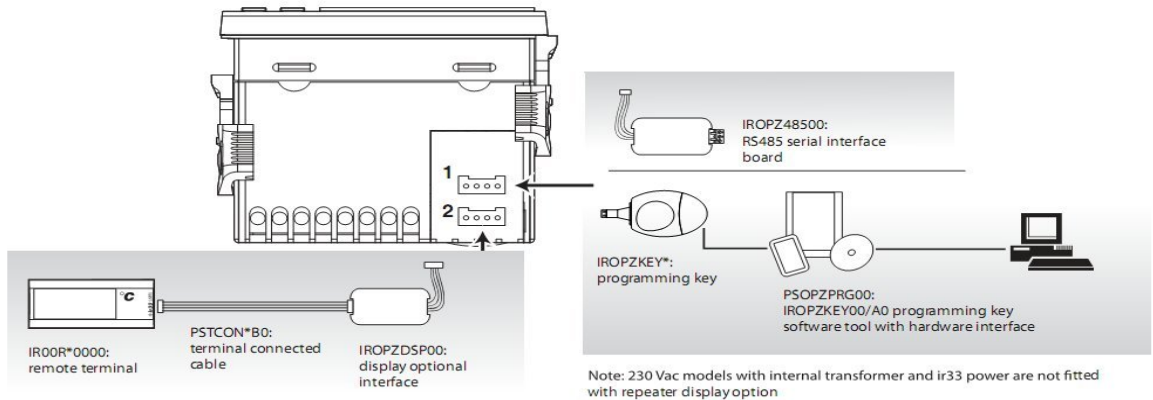
○ ต้องใช้อุปกรณ์เสริม (optional)



# CONTROLS

## ir33

### OVERVIEW DRAWING ir33





# CONTROLS

Refrigeration controllers  
Refrigeration Listed Price 2014



## ir33

Listed Price (Baht)

### ir33 thermometer, panel mounting, internal buzzer, programming key, RS485 network connector

|            |                                     |       |
|------------|-------------------------------------|-------|
| IR33M0ER00 | 230Vac, 2NTC probe, 1 DI, IR sensor | 2,150 |
|------------|-------------------------------------|-------|

### ir33 : 230 Vac, 2 NTC probe, 2 DI, internal buzzer, remote display, programming key, RS485 network connector

|            |  |       |
|------------|--|-------|
| IR33S0EA00 | 2 relays: comp (8A), aux (5A), IR sensor | 2,800 |
|------------|--|-------|

### ir33 : 115-230 Vac, 2 NTC probe, 2 DI, internal buzzer, remote display, programming key, RS485 network connector

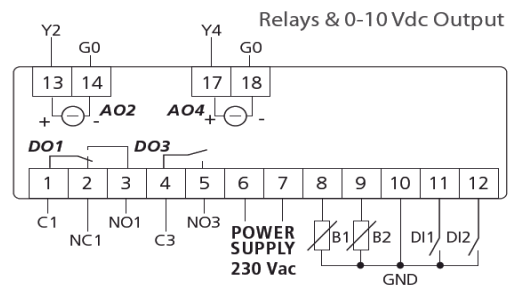
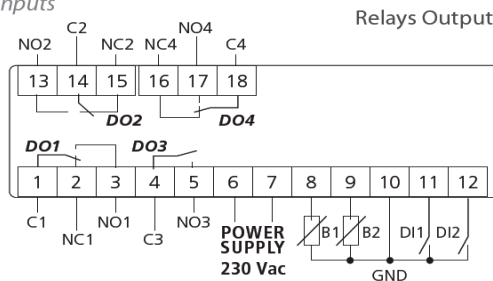
|            |  |       |
|------------|--|-------|
| IR33C0HB00 | 4 relays: comp (16A), def (8A), fan (8A), aux (5A) with RTC (clock), IR sensor | 3,250 |
|------------|--|-------|

### Accessories for ir33

#### Miscellaneous

|            |   |       |
|------------|---|-------|
| IRTRRES000 | Small infrared remote control                                     | 700   |
| IROPZDSP00 | Remote repeater   | 600   |
| IROORG000  | Remote three-digit green display                                  | 1,200 |
| PSTCON03B0 | Remote display connection cable, L=3 m                            | 300   |
| IROPZKEY00 | Parameter programming key for ir33 platfrom with 12Vac batteries  | 3,000 |
| IROPZKEYA0 | Parameter programming key for ir33 platfrom, 230 Vac power supply | 3,000 |
| IROPZ48500 | RS485 serial card for ir33  | 1,500 |
| IROPZ485S0 | RS485 serial card for ir33, automatic recognition RX-TX           | 1,800 |

#### temperature inputs



#### universal inputs

