

AIR SYSTEMS

# Large Rooftop

DIC-BIH-DIG 360 to 480 G



# Large Rooftop

DIC-BIH-DIG

A complete range from 119.1 kW up to 155.6 kW



**YKlon<sup>√3</sup>**



## Features

- YKlon <sup>√3</sup> board
- Duct work configuration side or down flow
- Cooling, heat pump, gas and electric heating
- Compact unit
- Wide range of accessories
- Suitable for use in harsh climates

**D 4 IC 360 G 50**

## Nomenclature

**Voltage code:**  
50 = 400V / 3 + N / 50 Hz

**Heating installed:**  
G = R407C

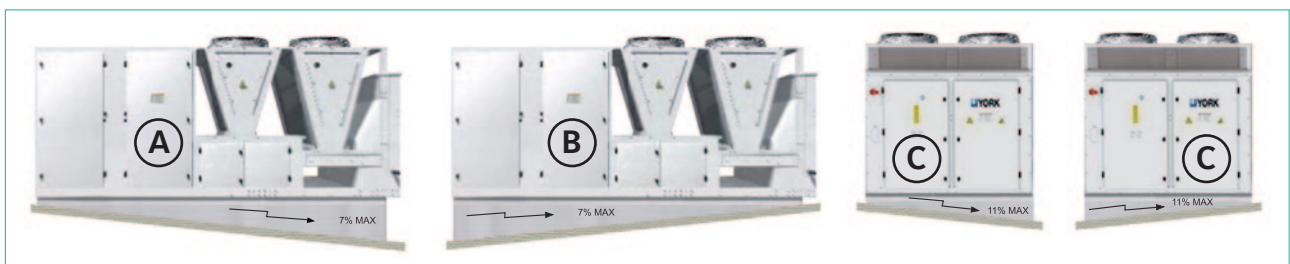
**Capacity range:**  
360 = 360.000 Btu/h  
1.000 Btu/h = 293 W

**Product identification:**  
IC = Cooling only  
IH = Heat pump  
IG = Heat gas

**Product generation:**  
4 = 4th generation

**Product category:**  
D = Packaged air conditioner (air-cooled)  
B = Heat pump

## Adjustable roof curb types





# Large Rooftop

## DIC-BIH-DIG 360 to 480 G

### Technical features

Models		D4IC 360 G	D4IC 480 G	B4IH 360 G	B4IH 480 G	D4IG 360 G*	D4IG 480 G*	
Gross cooling capacities (1)	kW	119.1	155.6	115.1	151.0	119.1	155.6	
Power input in cooling (2)	kW	31.4	37.2	32.0	44.5	31.4	37.2	
Heating capacities	kW	-	-	127.1	163.3	-	-	
Power input in heating	kW	-	-	41.9	56.7	-	-	
Cooling capacities (3)	kW	111.6	144.6	107.6	140.0	111.6	144.6	
Power input in cooling (3)	kW	42.4	52.2	43.0	59.5	42.4	52.2	
Heating capacities (3)	kW	-	-	127.1	163.3	-	-	
Power input in heating (3)	kW	-	-	41.9	56.7	-	-	
Gas heating capacities (3)	kW					117 + 9.2	117 + 11	
Natural gas 2ND-H, G20	m <sup>3</sup> /h					12.8	12.8	
Power supply		400V/3 + N/ 50Hz						
Nominal / Starting current	A	89 / 167	109 / 250	83 / 169	109 / 250	89 / 167	109 / 250	
Main switch	A	125	160	125	160	125	160	
Main cable	Nbr x mm <sup>2</sup>	5 x 50	5 x 70	5 x 50	5 x 70	5 x 50	5 x 70	
Cable to thermostat DPC-1	Nbr x mm <sup>2</sup>	10 x 0,22 shield cable only						
Number of circuits		3	3	3	3	3	3	
Thermostat		DPC-1						
Evaporator fan at nominal airflow	Airflow	m <sup>3</sup> /h	21 000	25 000	21 000	25 000	21 000	25 000
	Standard ESP	Pa	250	250	250	250	250	250
	ESP with HSD	Pa	400 (Side duct connections) - 450 (Down duct connections)					
	Power input	kW	9.2	11	9.2	11	9.2	11
	Power input HSD	kW	11	15	11	15	11	15
Drive		Pulley - Belt (6 turns adjustable)						
Nett dimensions	Height	mm	1.815					
	Length	mm	4.580					
	Depth	mm	2.200					
Nett weight	kg	2 010	2 295	2 060	2 350	2 125	2 410	

(1) : without heat from evaporator fan motor (2) : without evaporator fan motor (3) : All the data are at EUROVENT conditions with 230V/1/50Hz or 400V/3+N/50Hz  
Cooling : Entering indoor coil temp. 27°C / 19°C WB and outdoor temperature 35°C - Heating : Entering indoor coil temp. 20°C and outdoor temperature 7°C / 6°C WB  
\* You should indicate airflow connection (side or down) when placing order.

### Compatibility table / Codes

Cooling only models	D4IC 360 G	D4IC 480 G
	S661723623	S661724823
Heat pump models	B4IH 360 G	B4IH 480 G
	S661923623	S661924823
Cooling and gas heating models	D4IG 360 G	D4IG 480 G
	S661763603	S661764803
Thermostat	DPC-1	
to be ordered separately		

### Accessories or options

Models		D4IC 360 G	D4IC 480 G	B4IH 360 G	B4IH 480 G	D4IG 360 G	D4IG 480 G
Thermostat DPC-1	S603780044	A	A	A	A	A	A
Dry bulb triple input economizer or motorized air damper with rain hood (1)	S613993601	O	O	O	O	O	O
Enthalpy probe *	S613990081	O/A	O	O	O	O	O
Indoor air quality sensor *	S606819964	O/A	O/A	O/A	O/A	O/A	O/A
Power exhaust *	S613994880	O/A	O/A	O/A	O/A	O/A	O/A
Barometric relief damper + rain hood	S613990471	O/A	O/A	O/A	O/A	O/A	O/A
Fresh air damper and rain hood (2)	S613990488	O	O	O	O	O	O
High pressure drive 360	S611993680	O		O		O	
High pressure drive 480	S611994880		O		O		O
Low ambient control 360 and 480	S613113680	O	O	O	O	O	O
Hot water coil with control	S611083651	O	O	O	O		
Electric heater 37 kW (2 stages)	S611763384	O	O	O	O		
Electric heater 50 kW (2 stages)	S611764484	O	O	O	O		
Electric heater 60 kW (2 stages)	S611765581	O	O	O	O		
Washable air filter set G4 (EU4)	S611303680	O	O	O	O	O	O
Dirty filter switch	S613990084	O	O	O	O	O	O
Smoke detector	S613995381	O	O	O	O	O	O
Fire detection thermostat	S613903002	O	O	O	O	O	O
Fixed roof curb **	S613991980	A	A	A	A	A	A
Adjustable roof curb **	A	S613992084	A	A	A	A	A
	B	S613992085	A	A	A	A	A
	C	S613992086	A	A	A	A	A

O=Option (factory fitted). A=Accessory (supplied loose). O/A=If you want this item factory fitted, precise it in the order form.

\* It is mandatory to order the economizer with this item. \*\* Delivered in kit form.

(1) You should indicate airflow connection (side or down) when placing order.

(2) Fresh air damper can not be installed if economizer or motorized damper is fitted



Manufacturer reserves the rights to change specifications without prior notice.

# Large rooftop details & features



### Cabinet features

- Build to last, all cabinet with heavy gauge galvanized steel and powder paint backed on oven.
- Copper-copper coils or Blue fin delivered upon request.
- Side or bottom duct connections to be realized on site. No need to order specific models or roofcurb accessories.
- Excellent water-tightness even with high internal negative pressure.
- External slopes to remove rain water.
- Only 4 solid points to crane.



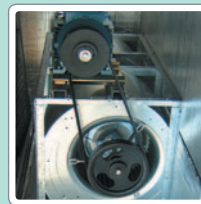
### Maintenance and service access

- Anti vibration bush reduces vibrations
- V Coils ensure Good access to main components
- No direct sun or snow accumulation on the coil



### Outdoor fan

- Galvanised sheet metal frame filters easy to dismount.
- Solid rain hood air filter mesh to avoid rain penetration.
- Smooth start indoor fan motor as standard.
- Adjustable motor pulley to get required airflow on site.



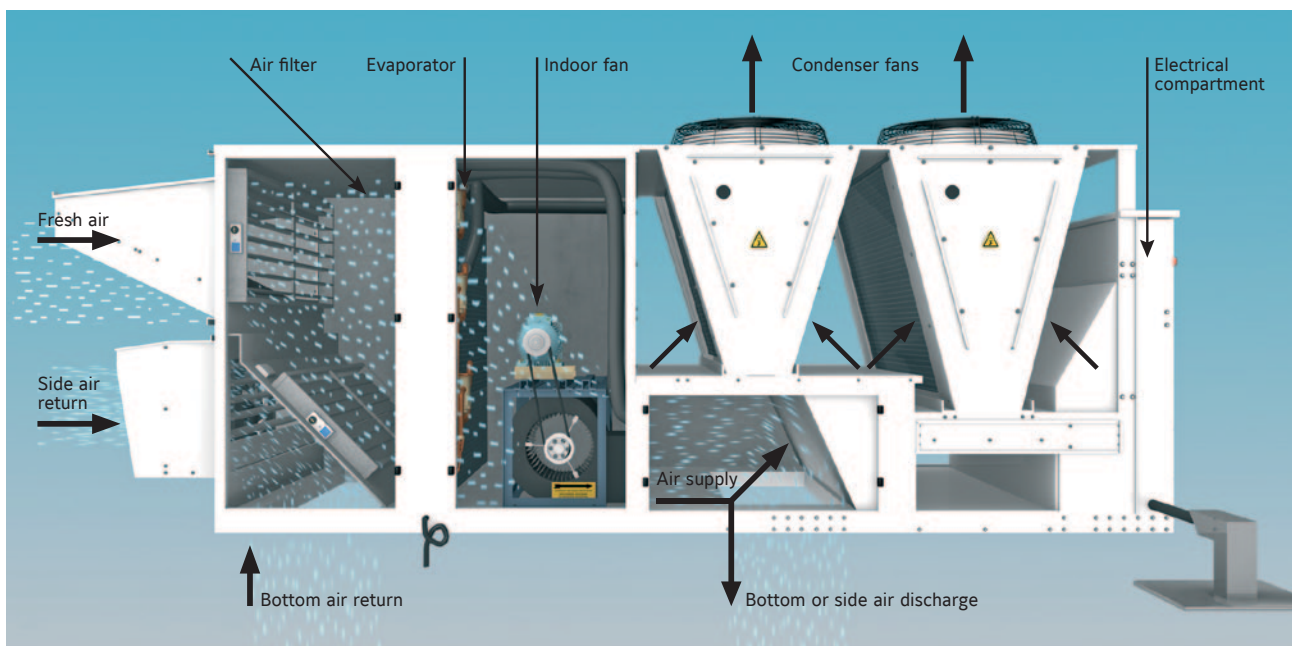
### Indoor fan

- Doors equipped with hinges 1/4 turn lock.
- Quick and easy access to all components.
- Inspection window for sight glass.
- Internal drain pan slope to remove drain water.
- Adjustable airflow.



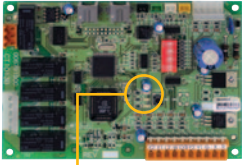
### Electrical compartment

- YKlon V3 regulation and control.
- Vertical hermetic scroll compressor, with compressor module and crankcase heater.
- The compressors with 3 independent circuits are located in a closed compartment, equipped with acoustical insulation in all internal surfaces.
- 3-Phase relay for detection of incorrect phase sequence especially important as we are using scroll compressors. Also protect the rooftops against total and partial phase loss with a regenerated voltage up to 85% of the nominal voltage (phase to phase).
- Main power switch, numbered wires in the cable trucking and motor protection.



# Control System

## YKlon√3 and YKlonFT10



Led Diagnostic Code

The YKlon is a controller regulating all components and accessories. It will pro actively manage cool and heat stages to maintain a stable room temperature. Additionally, the benefits are:

- Redundancy on cool and heat stages (if one step is locked out, the PCB starts another one automatically).
- Random start between units to minimise electrical tariff.
- All stages will start in sequence to reduce peak inrush.
- Reduces nuisance calls by using 3 times "you are out" on all safeties before a hard lockout occurs.
- Automatic restart after power failure. Compressors run time priority.
- Alarm output relay and led diagnostic code. No parameters to check before starting.
- Lockout and incident level of protection. Last 10 lockouts stored in a non-volatile memory.
- Use a standard 2-stage thermostat but get 98% of YKlon features.
- 4 heating stages on hot water heating.
- YKlonFT10: Same as YKlonV3 with BMS connection (LonWorks).



## YKphone485

The YKPhone485 is a complete communication pack that YORK can offer in order to provide a local network between units. Without any specific communication protocol knowledge, you can download the software and have a direct access to the units, change thermostat parameters, reset lockout, etc.... For more detail, see the following pages or contact you local agency.



## YKtool

The Yktool is the perfect tool to use on a regular basis for comissioning and service on site. For comissioning, it will override the thermostat and start the cooling or heating stages. Being a plug and play device, you will have direct access to all sensors and status of each components and accessories installed (lockout & incidents, temperatures, defrost test...).



## Features and benefits Thermostat DPC-1

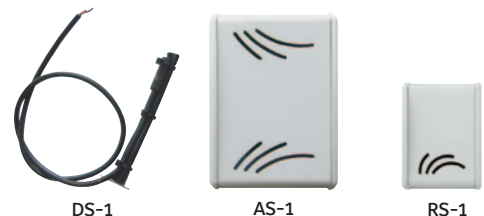
- Day (normal), night (economy) and unoccupied (stand by).
- Lockout code on screen gives direct diagnostics.
- ON/OFF or programmable from dip switch setting.
- Day or night programmable state avoids wide internal temperature variation.
- 3 preset and 3 programmable profiles.
- Temperature override.
- Select the control sensor you want to use (integrated in the thermostat, return air in duct or room sensor).
- Turbo, normal or economy logic from dip switch setting.
- From -3°C to +3°C sensor offset.
- Average temperature with room or duct sensors.

## Thermostats with integrated sensors

Thermostat models		DPC-1	DPC-1R
	Code	S603786044	S603786045
Roomtop	RTC and RTH	X	0
Rooftop	All models	X (1)	0
Split system	VAC and VAH	X	0
	VCH	X	0

Main features			
Strategy	Turbo, normal or economy		
Auto restart after power failure	•		•
Number of cool stages	2	1	2
Number of heat stages	2	1	2
Auxiliary Heat	•		•
Automatic Heat/Cool change over	•		•
Continuous or auto indoor fan	•		•
Manual setback (Day/Night key)	Day, night and unoccupied		
Override possibility	•		•
Compressor anti short cycle	•		•
°C Range cooling / heating	10 to 32°C / 9 to 32°C		
Programmable, 7-day	•		•
Lockout codes	•		•
Outdoor air temperature	•		with YKlon
Sensor selection	•		•

X : Delivered as standard with the unit. X (1) : Standard but has to be ordered separately.  
O : Optional. • : Function available.



Duct sensor	Ambiance sensor*	Room sensor
DS-1	AS-1	RS-1
S603786047	S603786049	S603786042

\* To control up to 4 temperature sensors.  
To be fitted with DPC-1 version 2.0 or superior.

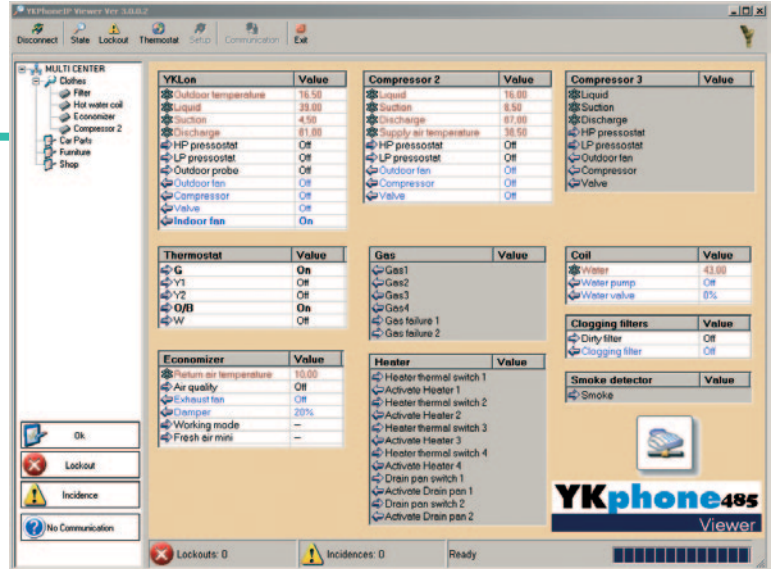
# YKphone485

Do it yourself!

## Main Screen



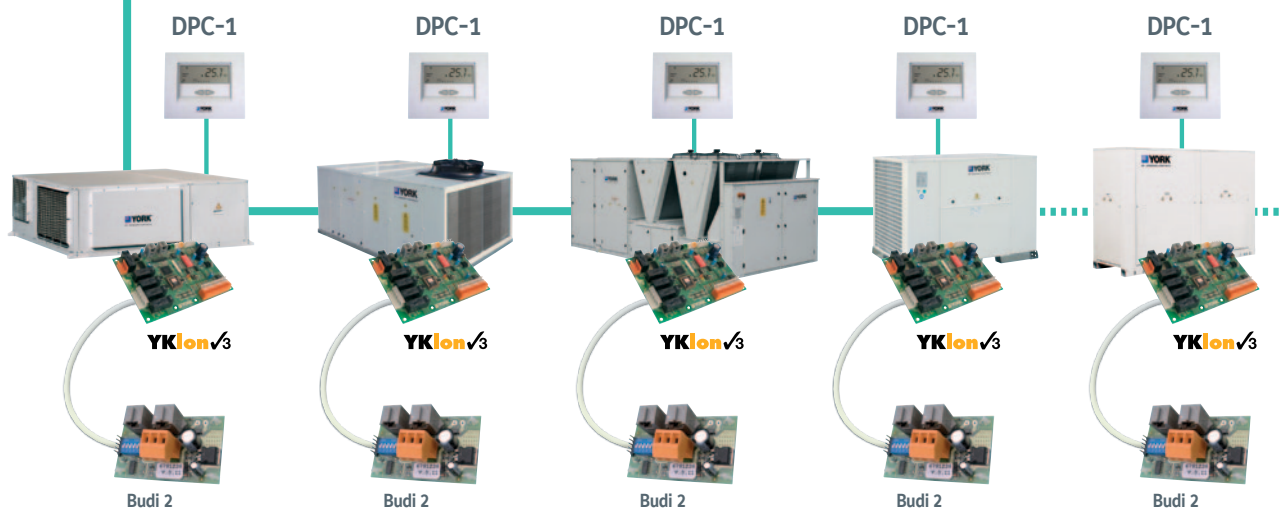
*l. max. 1,5m.*



## YKphone485

*l. max. 1000m.  
BELDEN or equivalent  
com cable*

- YKphone485 is a simple monitoring tool to be used with a maximum of 16 units equipped with YKLon ✓3 board or superior.
- It has been developed for internal or external maintenance team in supermarket, factory, etc...
- Monitor all main parameters as Inputs, Outputs, Temperatures & Accessories.
- Consult & modify thermostat DPC-1 setting (communication).
- Reset the unit.

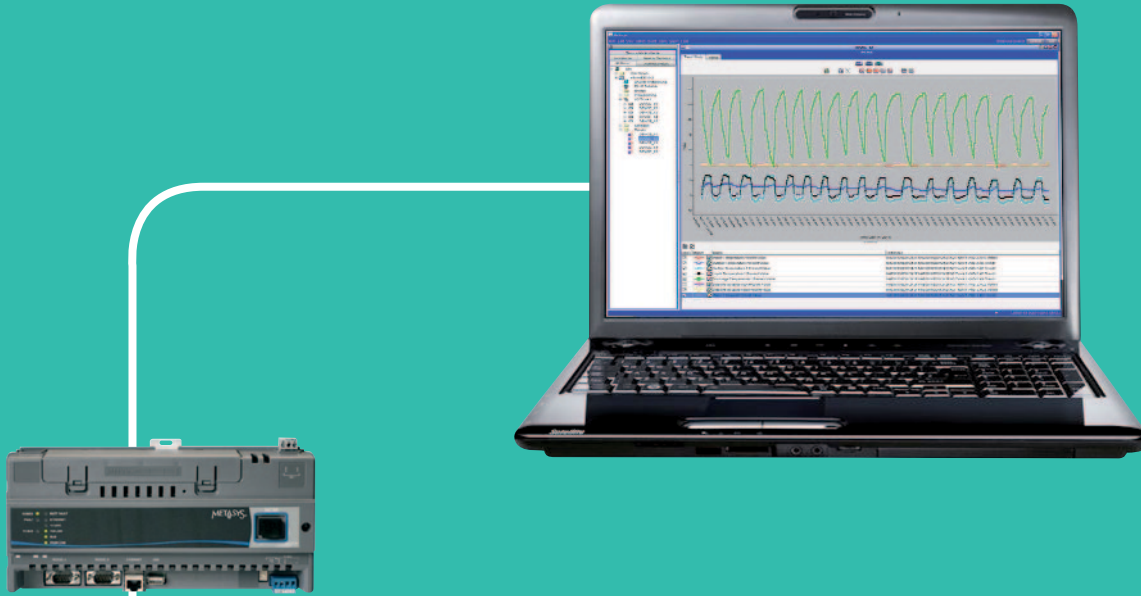


# BMS Connection



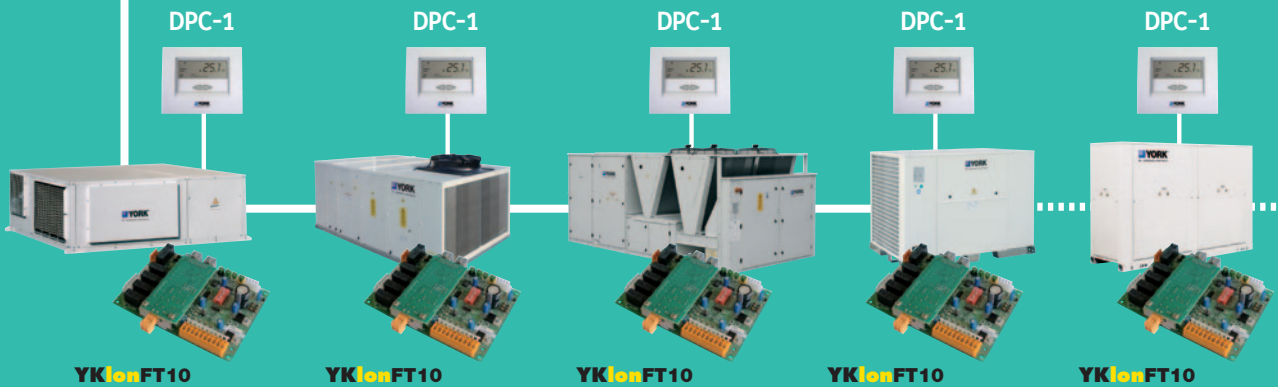
LONWORKS<sup>®</sup>  
CONNECTION

## YKlonFT10\*



LONWORKS<sup>®</sup>  
CONNECTION

- YKlon FT10 brings all features and benefits of YKlon ✓3 but incorporates additional components to allow the unit to communicate and being operated remotely by BMS system (LonWorks).
- Possibility to fully monitor and CONTROL the units.
- Full documentation specifying variables and meanings.
- Supplied kit with all necessary to perform a communication test available upon request (Ask JCI sales Office).



\* with YKlon ✓3 models

