

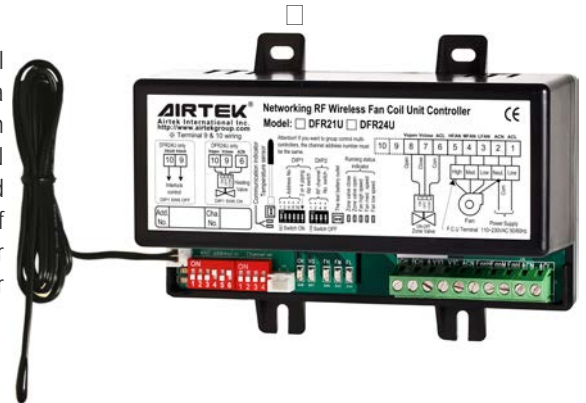
Field Control Layer Device

DFR...

RF Wireless Networking Fan Coil Unit Controller

【Description】

DFR series RF wireless is a Stand Alone, multi-functional Fan Coil controller, economical to install with minimal wiring. Communication is via wireless RF transmission and there can be up to 16 FCU controllers with each PF-MR11 device or NFR16P wireless remote. When linked to a wireless LAN network, a centralized management system can carry out control and monitoring functions remotely. When connected to a MFC or NFC family of control panels or NFR16P wireless remote, the user can change group or individual control functions of the DFR controller, such as start/stop, air conditioning mode, fan speed switch, set temperature, time delay shutdown.



【Features】

- Operates with a 32 bit high effect microprocessors (MCU).
- Incorporates a RFnet two-way communication channel, send and receive, use a PF-MR11 or NFR16P wireless remote control, links into a wireless LAN.
- With a MSnet communication interface, the operator panel MFC, MFT, NFC can be connected to the DFR for local control.
- Communication distance up to 100 meters (Line of Site). The external antenna design allows for greater coverage.
- Easy installation, minimal wiring.
- A dry contact input or infrared sensors is typically used for energy-saving by automatically turning OFF the system.
- Separate temperature sensor from the control panel insures the location of the control panel is not critical..
- Shut down timer is used for delayed STOP of the system..
- Automatic Shut Down if temperature rises above more than 55 °C.
- Memory retention on Power Failure.
- Stager start after power outage (Uses Node Number for stager start up).
- On-Board 5A fuse.

【Specification】

Model	Mode	Fan speed	BI	AI	BO	Cooling/Heating changeover	Apply to water piping system	Interlock control function
DFR21U	Cool/Heat/Fan	Auto/High/Med./Low	1	1	5	Yes	2	No
DFR24U	Cool/Heat/Fan	Auto/High/Med./Low	1	1	6	Yes	2	Yes
	Auto/Cool/Heat/Fan						4	No

Power supply : 110~220VAC, 50/60Hz, 5VA

Microprocessor : 16 bit high speed processor

Communication : 2 wire MODBUS RTU standard RS-485 communication, network distance up to 1200 meters.

Channel & address : 16 channels, each channel can set 16 addresses.

Binary input : One set of dry contact input.

Temperature sensor : An external 10KΩ (25°C) NTC temperature sensor, sensing Range 0 ~ 50 °C .

Temperature range : 15~30°C, accuracy ± 1°C

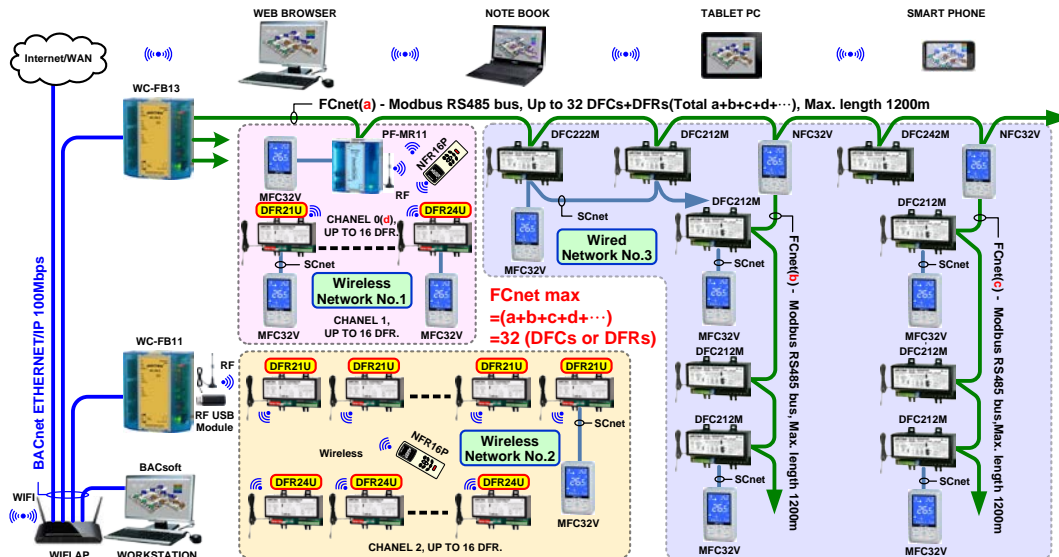
Fan control output : Three sets of UL/ CUL/ TUV certification 10A, 250VAC SPST contacts for 3-speed fan control

Valve control output : One set of UL/ CUL/ TUV certification 5Amp N/O, 3Amp N/C, 277VAC, SPDT dry contact, for two or three position motorized valve control. (Note: DFR24U has 2 relay outputs.)

Interlock output : One set of UL/ CUL/ TUV certification 10Amp, 277VAC, SPST dry contact for external device interlock control. (Note: Only model DFR24 U has this interlock output.)

Environment : 0~70°C, 0~95%RH non-condensing

【Network Architecture】



【Network Architecture】

【Wiring Diagrams】

- DFR can be applied to two or four pipe system on chiller water, DX air condition systems (see the figure 1~3), dip switch selectable parameters; refer to the related technical manual.
- Use four cores AWG#22 shield wire for MSnet network connection.
- The DFR can also use a NFR16P remote controller to perform group or individual control.
- Transmission distance of 100 m (Direct Line of Site), signal will diminish through walls and concrete.
- Ensure correct size cabling is used.
- Drive Open, Drive Closed or spring return actuators can be used.
- Each DFR needs a unique node network address when networked. Network addresses are from 0 to 15, use the binary DIP switch to set Node address.
- When using DFR in a Wireless Cell Network the same channel should be selected. Node address is 0 to 15, use the binary DIP switch for channel settings.
- The controller has a factory preset 5A fuse capacity, use auxiliary relays if current rating is exceeded.

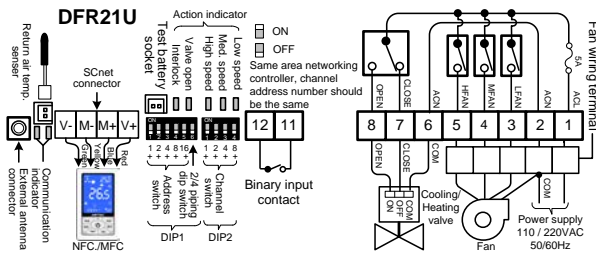


Figure 1. DFR21U applied to 2-piping wiring diagram

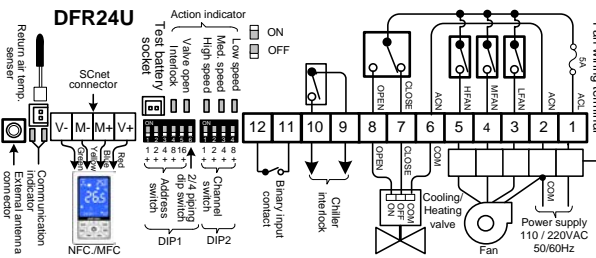


Figure 2. DFR24U applied to 2-piping wiring diagram

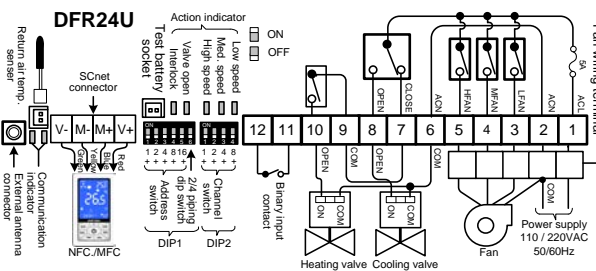


Figure 3. DFR24U applied to 4-piping wiring diagram

【Dimensions】 Unit : mm

