Quick Start Guide – A-Coil

LG Air Conditioning Technologies

Life's Good.

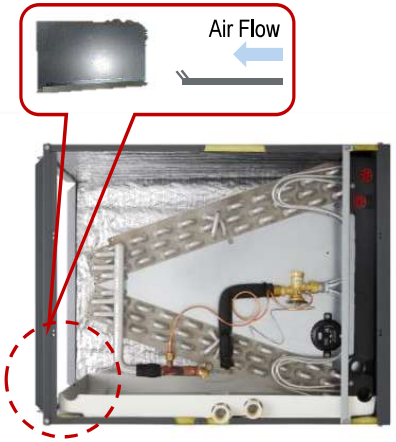
A-Coil Installation

More than 23-5/8" (600mm) clearance from access panels for service

More than 0

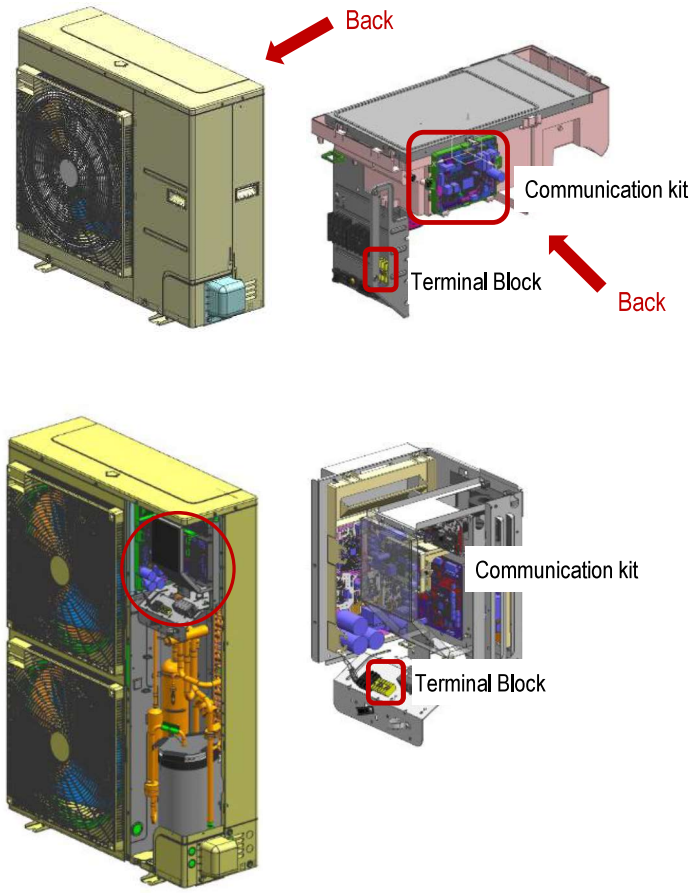
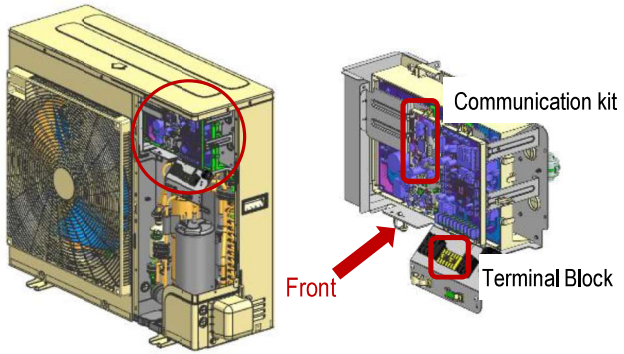
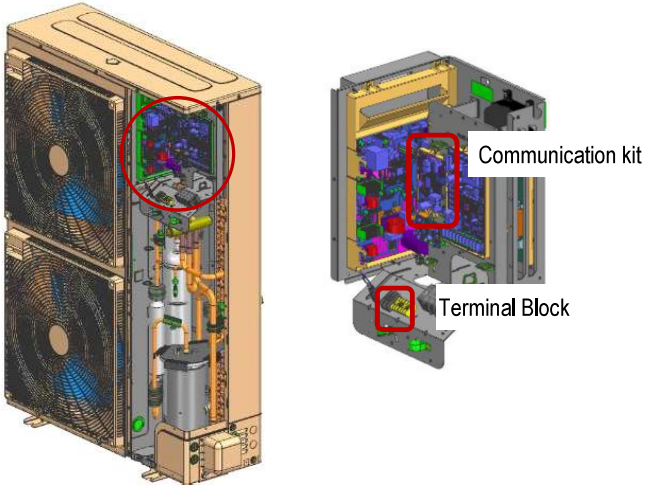
More than 0

More than 0



In the case of horizontal installation, a blowoff guard is necessary to prevent the condensate from splashing out due to the air blown from the furnace. The "condensate blowoff guard" is included with the A-Coil product.

1.4 Changes of ODU

R410A models	R32 Models
	Improvement of installation and serviceability by arranging the PCB at the front.  Improvement of installation and serviceability through cover removal 

Airflow Selection

Capacity	AHRI #	Standard	Air Flow Rate(CFM)	A-Coil Size(inch)	Capacity (Btu/h)			EER2	SEER2	COP2	HSPF2	E/Star	E/Star Cold Climate	Tax Credit
			Cooling, Heating (H / M / L)		Cooling (95F)	Heating (47F)	Heating (5F)							
1.5RT	216445243	LKMMA18A1 KUSXB181A	600 / - / 450	14.5	17,000	20,000	16,000	11.5	15	10.92	8.1	No	No	No
1.5RT	216445244	LKMMA18B1 KUSXB181A	600 / - / 450	17.5	18,000	20,000	16,000	11.7	15.2	10.92	8.1	Yes	Yes	No
2.0RT	216445245	LKMMA24B1 KUSXB241A	800 / - / 600	17.5	21,600	24,000	20,000	11.7	15.2	10.71	8.5	Yes	Yes	No
2.5RT	216445246	LKMMA30B1 KUSXB301A	1000 / - / 750	17.5	27,600	30,000	24,000	10	15	10.58	8.3	No	No	No
3.0RT	216445247	LKMMA36B1 KUSXB361A	1200 / - / 840	17.5	34,400	37,000	32,000	11.7	15.2	11.26	8.4	Yes	Yes	No
3.0RT	216445248	LKMMA36C1 KUSXB361A	1200 / - / 840	21	34,400	37,000	32,000	11.7	15.5	11.26	8.5	Yes	Yes	No
3.5RT	216445249	LKMMA42C1 KUSXB421A	1400 / - / 1050	21	41,000	43,000	36,000	11.7	15.2	11.33	8.5	Yes	Yes	No
4.0RT	216445250	LKMMA48C1 KUSXB481A	1600 / - / 1200	21	45,500	48,000	38,000	10.5	15.2	11.6	8.3	No	Yes	No
4.0RT	216445263	LKMMA48C1 KUSXB601A	1600 / - / 1200	21	45,500	50,000	41,000	11.7	15.9	11.87	8.9	Yes	Yes	No
4.0RT	216445251	LKMMA48D1 KUSXB481A	1600 / - / 1200	24.5	45,500	48,000	38,000	11	15.5	11.6	8.5	Yes	Yes	No
5.0RT	216445252	LKMMA60C1 KUSXB601A	1740 / - / 1300	21	52,500	56,000	44,000	10.5	15.2	11.26	8.5	No	Yes	No
5.0RT	216445253	LKMMA60D1 KUSXB601A	1740 / - / 1300	24.5	52,500	56,000	44,000	10.7	15.5	11.26	9	No	Yes	No

Refrigerant Charge

Capacity	AHRI #	Standard	Pre-Charged		Additional Charge (oz/ft)	Max Pipe Length (ft)
			Pipe Length (ft)	Amount (oz)		
1.5RT	216445243	LKMMA18A1 KUSXB181A	Upto 24.6	67	0.38	164
1.5RT	216445244	LKMMA18B1 KUSXB181A	Upto 24.6	67	0.38	164
2.0RT	216445245	LKMMA24B1 KUSXB241A	Upto 24.6	67	0.38	164
2.5RT	216445246	LKMMA30B1 KUSXB301A	Upto 24.6	67	0.38	164
3.0RT	216445247	LKMMA36B1 KUSXB361A	Upto 24.6	106 + **14***	0.43	246
3.0RT	216445248	LKMMA36C1 KUSXB361A	Upto 24.6	106 + **14***	0.43	246
3.5RT	216445249	LKMMA42C1 KUSXB421A	Upto 24.6	106 + **14***	0.43	246
4.0RT	216445250	LKMMA48C1 KUSXB481A	Upto 24.6	106 + **14***	0.43	246
4.0RT	216445263	LKMMA48C1 KUSXB601A	Upto 24.6	120 + **14***	0.43	246
4.0RT	216445251	LKMMA48D1 KUSXB481A	Upto 24.6	106 + **14***	0.43	246
5.0RT	216445252	LKMMA60C1 KUSXB601A	Upto 24.6	120 + **14***	0.43	246
5.0RT	216445253	LKMMA60D1 KUSXB601A	Upto 24.6	120 + **14***	0.43	246

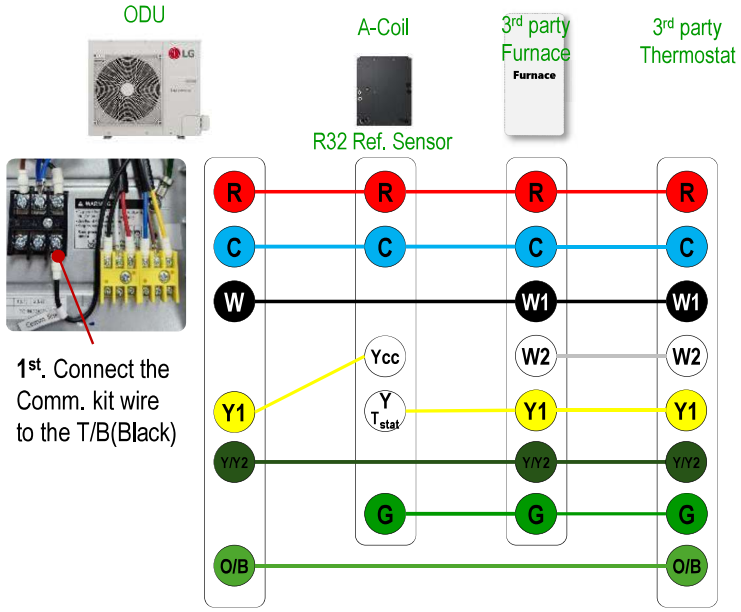
When combined with the A-coil, an **additional 14 oz** of refrigerant is generally required, and the amount of refrigerant needed for any extra length must be calculated separately and charged accordingly.

Capacity	AHRI #	LGRED	Pre-Charged		Additional Charge (oz/ft)	Max Pipe Length (ft)
			Pipe Length (ft)	Amount (oz)		
1.5RT	216445254	LKMMA18A1 KUSXA181A	Upto 24.6	67	0.38	164
1.5RT	216445255	LKMMA18B1 KUSXA181A	Upto 24.6	67	0.38	164
2.0RT	216445256	LKMMA24B1 KUSXA241A	Upto 24.6	67	0.38	164
2.5RT	216445264	LKMMA24B1 KUSXA301A	Upto 24.6	106 + **14***	0.43	246
3.0RT	216445257	LKMMA30B1 KUSXA301A	Upto 24.6	106 + **14***	0.43	246
3.0RT	216445258	LKMMA36B1 KUSXA361A	Upto 24.6	106 + **14***	0.43	246
3.5RT	216445259	LKMMA36C1 KUSXA361A	Upto 24.6	106 + **14***	0.43	246
4.0RT	216445260	LKMMA42C1 KUSXA422A	Upto 24.6	106 + **14***	0.43	246
4.0RT	216445261	LKMMA48C1 KUSXA482A	Upto 24.6	120 + **14***	0.43	246
4.0RT	216445262	LKMMA48D1 KUSXA482A	Upto 24.6	106 + **14***	0.43	246

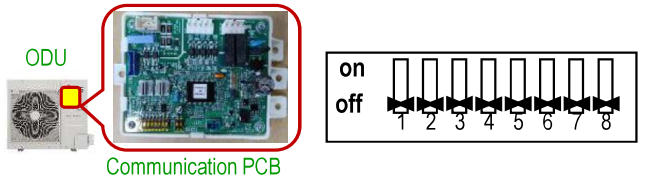
Wiring and Dip switch setting

LG HP+A-Coil + 2 stage Furnace with 3rd party Thermostat

Communication Wiring



Dip SW Setting HV & Red



DIP SW	Function	ON	OFF
1	-	-	-
2	**Remote Controller**	*For the Test Only*	-
3	**Thermostat H/P Setting**	**'B' Type**[1)]	**'O' Type**[2)]
4	**Stage Setting(Furnace)**	1 Stage	2 Stage
5	Reserved	-	-
6	Reserved	-	-
7	Reserved	-	-
8	Reserved	-	-

1) Default Heating
2) Default Cooling

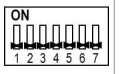
Note

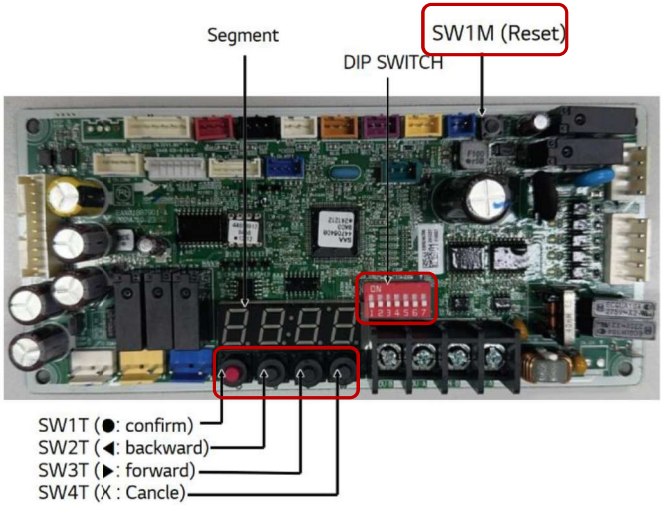
Due to safety regulations regarding A2L refrigerants, a refrigerant leak detection sensor is installed inside the A-Coil. This leak sensor stops the operation of the outdoor unit when a leak is detected and activates the fan to prevent refrigerant from accumulating in one place.

Wiring and Dip switch setting

CASE 2) CV Enable

3. Setting

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
Dip S/W #3 **'Up'** 	Func	Fn30 Thermostat Connection	En Enable / Disable	on	Dip S/W #3 **'Down'** 	Push the **'SW1M'** (Reset) Button
				oFF		
			tYpe Thermostat Type	o tY		
				b tY		
			Idqc Capacity	18~60		
			StAG Stage(Furnace)	1		
				2		



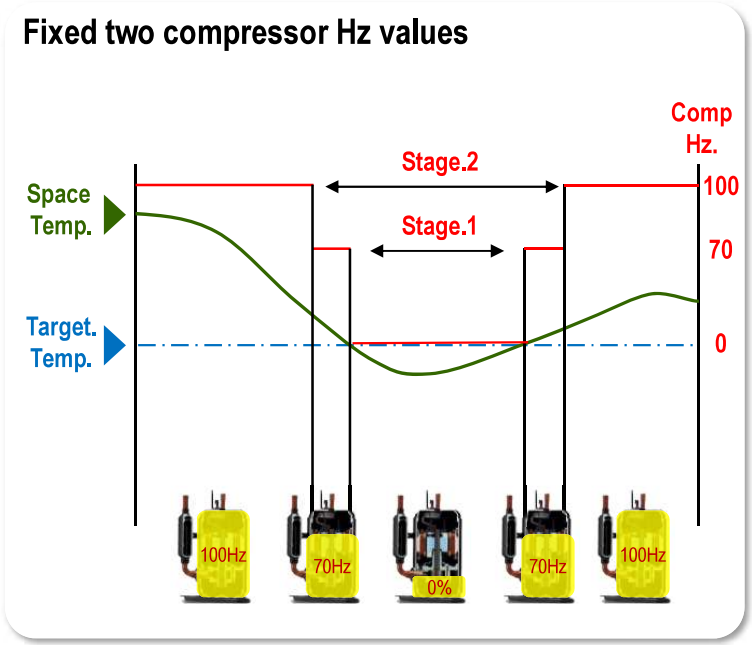
Setting with 3rd party Thermostat Connection

Dip S/W #3 : 'Up' → **'Func'** displayed at segment → (●[1]) → Select **'Fn30'** → (●) → Move[2] to 'En' → (●) → **'on'** → (●)
→ **'Func'** displayed at segment → (●) → Select **'Fn30'** → (●) → Move to 'tYpe' → (●) → Select Thermostat Type : 'o tY' OR 'b tY' → (●)
→ **'Func'** displayed at segment → (●) → Select **'Fn30'** → (●) → Move to 'Idqc' → (●) → Select the Capacity : '18', '24', '30', '36', '42', '48 or '60' → (●)
→ **'Func'** displayed at segment → (●) → Select **'Fn30'** → (●) → Move to 'StAG' → (●) → Select the Stage of Furnace : '1', or '2' → (●)
→ **'Func'** displayed at segment → **Dip S/W #3 : 'Down'** → Push the **'SW1M'(Reset)** Button

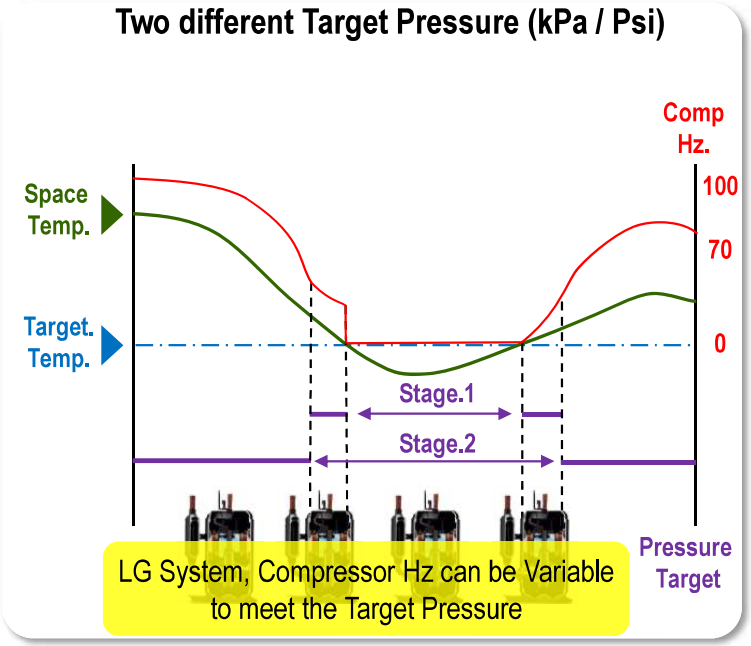
1) Push the 'SW1T(●:Confirm)' Button
2) Push the 'SW2T(◀:Backward) OR SW3T(▶:Forward)' Button

Two Stage Compressor vs LG with 24v control

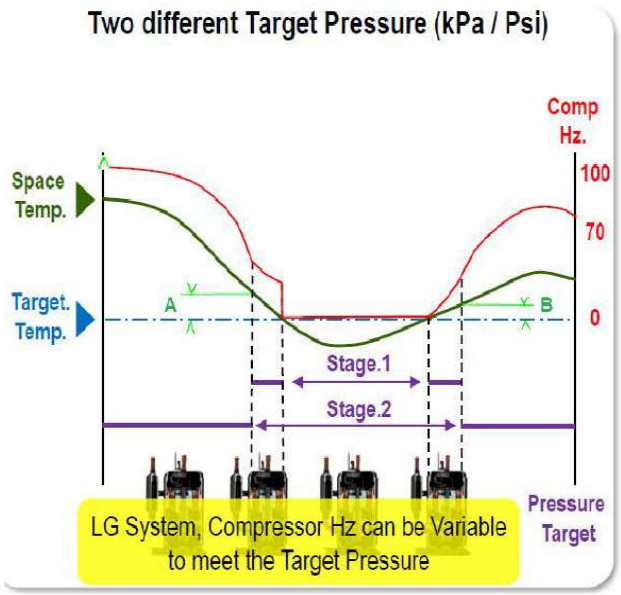
Common two-stage system



LG system



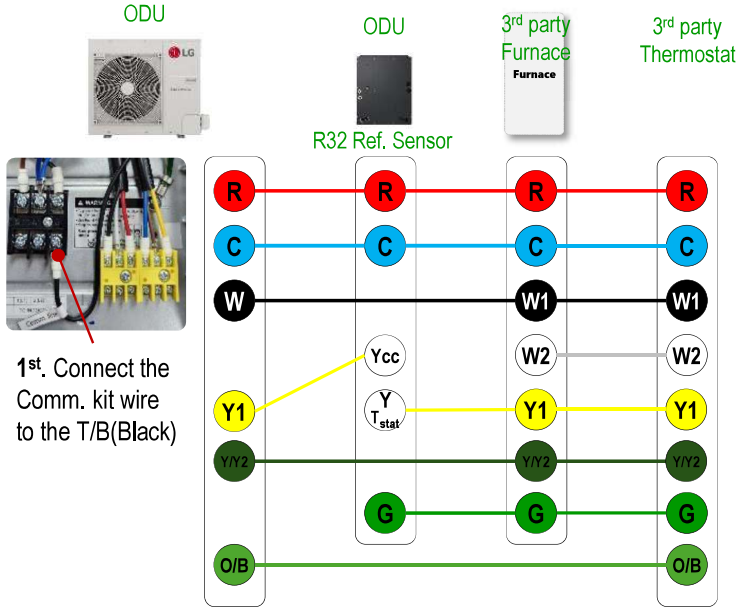
LG system



Temp **A** and **B** are based on the 24v conventional thermostat programming between 1st and 2nd stage.

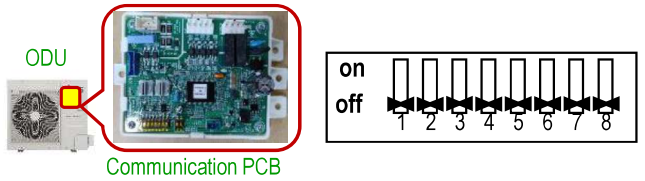
Cooling Operation

Communication Wiring



1st. Connect the Comm. kit wire to the T/B(Black)

Dip SW Setting



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2	**Remote Controller**	*For the Test Only*	-
3	**Thermostat H/P Setting**	**'B' Type**[1)]	**'O' Type**[2)]
4	**Stage Setting(Furnace)**	1 Stage	2 Stage
5	Reserved	-	-
6	Reserved	-	-
7	Reserved	-	-
8	Reserved	-	-

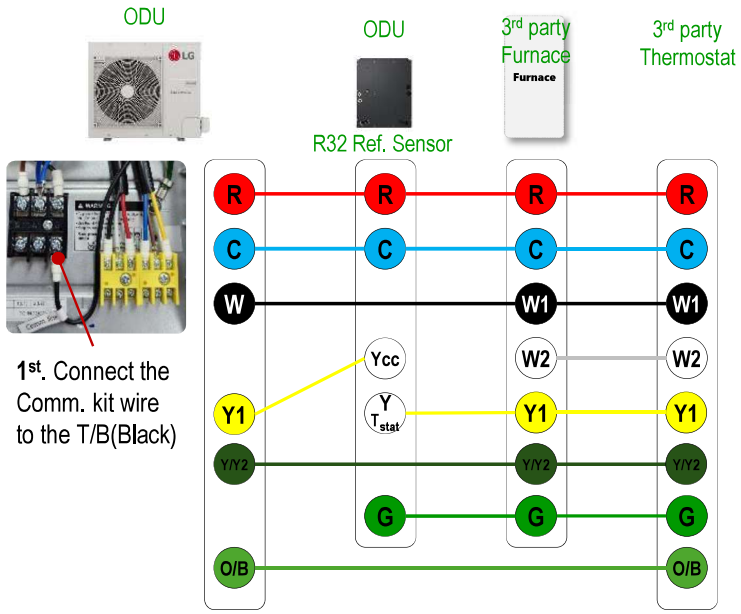
1) 4way valve energized on Heating
2) 4way valve energized on Cooling

Cooling

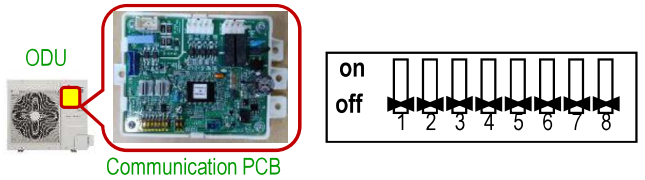
1. **"Cooling"** @ Thermostat
2. "**O/B**" Terminal (@ Thermostat) is "Closed"* ▶ **Cooling** (Reversing Valve position changed for Cooling)
3. **ODU : Y1**(Close) & **Gas Furnace : G** (Close) ▶ Comp. stage 1(Target Pressure **780kPa**) and Low Fan Speed 113.13 PSI
4. **ODU** : **Y1**(Open) → **Y2**(Close) ▶ Comp. stage 2(Target Pressure **700kPa**) and High Fan Speed 101.53 PSI
5. Compressor HZ can be varied to reach the target pressure.
   As the outdoor load changes or the indoor load changes, the compressor's operating speed may also be affected.

Heating Operation

Communication Wiring



Dip SW Setting



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4	**Stage Setting(Furnace)**	1 Stage	2 Stage
5	Reserved	-	-
6	Reserved	-	-
7	Reserved	-	-
8	Reserved	-	-

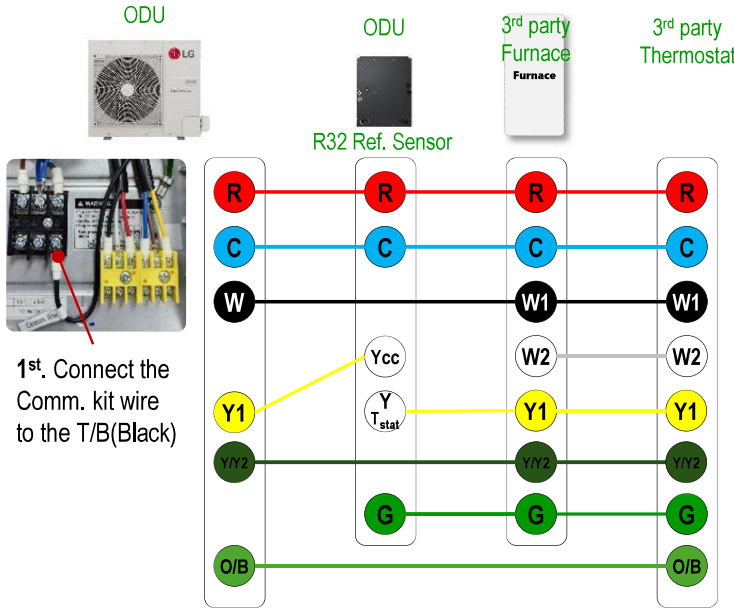
1) 4way valve energized on Heating
2) 4way valve energized on Cooling

Heating

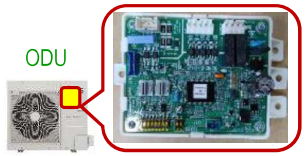
1. **"Heating"** @ Thermostat
2. "**O/B**" Terminal (@ Thermostat) is "Open"* ▶ **Heating** (Reversing Valve position for Heating)
3. **ODU : Y1**(Close) & **Gas Furnace** : **G** (Close) ▶ Comp. stage 1(Target Pressure **2,960kPa**) and Low Fan Speed **429.31 PSI**
4. **ODU** : **Y1**(Open) → **Y2**(Close) ▶ Comp. stage 2(Target Pressure **3,180kPa**) and High Fan Speed **461.22 PSI**
5. Compressor HZ can be varied to reach the target pressure.
   As the outdoor load changes or the indoor load changes, the compressor's operating speed may also be affected.

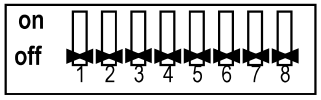
※ Dual Fuel Application can be activated when you using the Thermostat which enable to set dual fuel function.

Defrost Operation



1st. Connect the Comm. kit wire to the T/B(Black)





DIP SW	Function	ON	OFF
1	-	-	-
2	**Remote Controller**	*For the Test Only*	-
3	**Thermostat H/P Setting**	'B' Type[1)]	'O' Type[2)]
4	**Stage Setting(Furnace)**	1 Stage	2 Stage
5	Reserved	-	-
6	Reserved	-	-
7	Reserved	-	-
8	Reserved	-	-

1) 4way valve energized on Heating
2) 4way valve energized on Cooling

Defrost Mode

When frost formation is detected on the outdoor unit's heat exchanger, the product enters defrost mode to melt the frost. In defrost mode, heating supply through the cycle is not possible, so when entering the defrost cycle, the outdoor unit sends a "W" signal to the gas furnace to enable continuous heating operation.