

4SCU16LS

PRODUCT SPECIFICATIONS

16 SEER SPLIT SYSTEM TWO-STAGE AIR CONDITIONER

FORM NO. 4SCU16LS-100 (10/2019)



COMPONENTS

- Communicating capable control board works with “Comfort Sync” thermostat (or conventional thermostat)
- Self diagnostics control board for quick trouble shooting; saves up to 10 fault codes regardless of power interrupt
- Factory installed high and low pressure switches
- Thread-on type pressure switches with valve core for quick service
- Service valves mounted for easy brazing and service
- Factory installed crankcase heater
- Factory installed TXV for excellent refrigeration control
- Fan orifice for sound reduction and efficient performance
- Charged for 15 feet of line set
- Can be matched with Comfort Sync™ enabled or conventional indoor unit

WARRANTY

10 year limited warranty on compressor, 10 year limited warranty on all parts, extended warranty available*

**Warranty provides for a total of 10 years of limited warranty coverage (Standard 5-year limited parts warranty plus an additional 5-year limited extended parts warranty). Warranty must be registered online within 60 days of installation to qualify for 10-year coverage. Unregistered equipment defaults to 5-year coverage. See full warranty at www.alliedair.com for terms, conditions and exclusions.*

COMFORT SYNC
COMMUNICATING THERMOSTAT ENABLED

COMPRESSOR

- High-efficiency 2 stage Copeland UltraTech™ scroll compressor
- R410a refrigerant
- Heavy-duty compressor sound blanket for quiet operation
- Internally protected against high temperature motor overload conditions

CABINET

- Four metal louvered panels easily removable for coil cleaning and service
- Corner-mounted controls for easy service
- Rounded corner posts for safety and attractive appearance
- Baked polyester paint finished over galvanized steel for maximum durability
- Removable PVC coated wire fan discharge grill
- External gauge ports for easy service

COILS

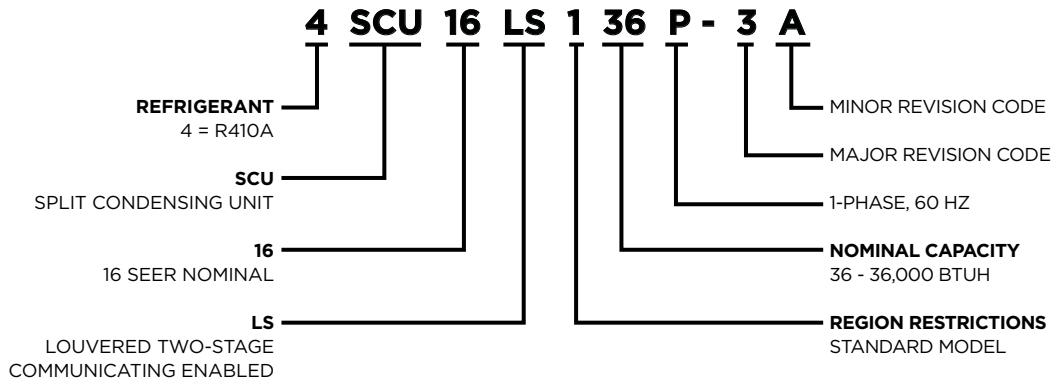
- Enhanced tube-and-fin coil design featuring MHT™ Technology
- Raised coil prevents debris from impeding airflow

DESIGN

- Designed to perform in temperatures up to 125 degrees F



MODEL NUMBER GUIDE



PHYSICAL AND ELECTRICAL

Model	Voltage/Hz/Phase	Voltage Range	Min. Circuit Amp.	Max. Over Current Device (amps)	Compressor		Fan Motor			Weight (lbs.)
					Rated Load (amps)	Locked Rotor (amps)	Rated Load (amps)	Rated HP	Nom. RPM	
4SCU16LS124P-3	208-230/60/1	197-253	15.7	25	11.7	58	1.0	1/6	825	212
4SCU16LS136P-3	208-230/60/1	197-253	20.2	35	15.3	83	1.1	1/6	825	245
4SCU16LS148P-3	208-230/60/1	197-253	28.2	45	21.2	104	1.1	1/6	825	287
4SCU16LS160P-3	208-230/60/1	197-253	35.6	60	27.1	153	1.7	1/4	825	332

Note: Weights listed are unit weights with packaging

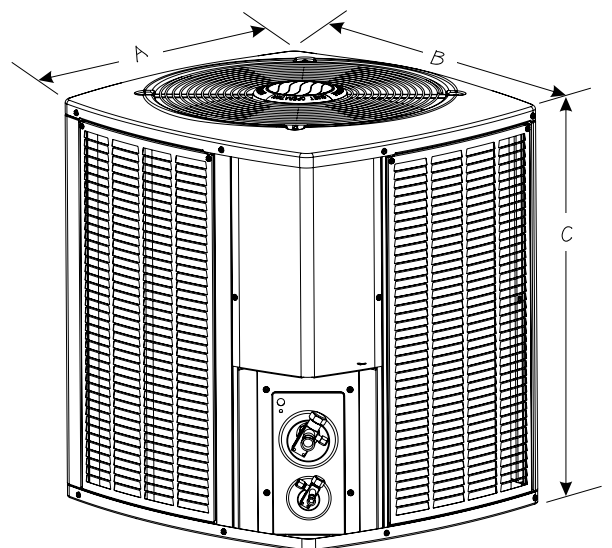
UNIT SOUND RATINGS

Model	Sound Power ¹	Estimated Sound Pressure (dBA) ²		
		Approximate Distance ³		
		One Meter (3.3 feet)	Two Meters (6.6 feet)	Three Meters (9.8 feet)
4SCU16LS124P-3	74	66	60	56
4SCU16LS136P-3	74	66	60	56
4SCU16LS148P-3	76	68	62	58
4SCU16LS160P-3	76	68	62	58

1 Rated in accordance with AHRI standard 270 (2015)
 2 Rated in accordance with AHRI standard 275 (2010)
 3 Based only on distance factor; other factors may change this value such as:
 • Unit location (reflective surfaces adjacent to the unit)
 • Barrier shielding sources
 • Sound path/elevation
 • Outside noise sources

DIMENSIONS (IN.)

Model No.	A - Width	B - Depth	C - Height
4SCU16LS124P-3	29.25	31.25	43.75
4SCU16LS136P-3	29.25	31.25	29.75
4SCU16LS148P-3	29.25	31.25	37.75
4SCU16LS160P-3	35.75	37.75	43.75



REFRIGERATION DATA

Model	System Charge (oz.) *	Indoor TXV	Refrigerant Line Size		Outdoor Unit Connection		Indoor Unit Connection	
			Suction	Liquid	Suction	Liquid	Suction	Liquid
4SCU16LS124P-3	117	A4TXV01	3/4	3/8	3/4	3/8	VARIES BASED ON COIL MATCH	3/8
4SCU16LS136P-3	137	A4TXV02	7/8		7/8			
4SCU16LS148P-3	180	A4TXV02	7/8		7/8			
4SCU16LS160P-3	214	A4TXV02	1 1/8		7/8			

* Factory charged for 15 feet of line set; adjust 0.6 oz per foot (see installation instructions).

COOLING PERFORMANCE WITH AIR HANDLERS & FURNACES

Outdoor Model	Variable Speed Furnace	Indoor Model	SEER	EER	AHRI Rate Capacity ¹ BTUH	Sensible Rated Capacity	CFM High	CFM Low
		Evap. Coil or Air Handler ³						
4SCU16LS124P-3		BCS2M36V00NA1P+A4TXV01	15.10	12.20	24000	17,800	800	600
		BCE4M24S*	15.10	12.20	24000	17,800	850	650
		BCE4M30S*	15.10	12.20	24000	17,800	850	650
	EFV08BC	E*1P36B+A4TXV01+TDR	15.10	12.20	24000	17,800	850	650
	A80US2V070A12	E*1P19A+A4TXV01+TDR	16.00	13.00	24000	17,800	820	650
	A80US2V070A12	E*1P23A+A4TXV01+TDR	16.00	13.00	24000	17,800	820	650
	A80US2V070A12	E*1P29A+A4TXV01+TDR	16.00	13.00	24000	17,800	780	495
	A80US2V070A12	E*1P36A+A4TXV01+TDR	16.00	13.00	24000	17,800	780	495
	A80US2V090B12	E*1P23B+A4TXV01+TDR	15.10	13.00	24000	17,800	780	495
	A80US2V090B12	E*1P29B+A4TXV01+TDR	16.00	13.00	24000	17,800	780	495
	A80US2V090B12	E*1P30B+A4TXV01+TDR	16.00	13.00	24000	17,800	800	500
	A80US2V090B12	E*1P36B+A4TXV01+TDR	15.10	12.50	24000	17,800	780	495
	A80DS2V070A12	E*1P36A+A4TXV01+TDR	14.50	12.20	22000	16,300	800	575
	A96US2V045B12	E*1P23B+A4TXV01+TDR	16.00	13.00	24000	17,800	815	540
	A96US2V045B12	E*1P29B+A4TXV01+TDR	16.00	13.00	24000	17,800	815	540
	A96US2V045B12	E*1P30B+A4TXV01+TDR	16.00	13.00	24000	17,800	815	540
	A96US2V045B12	E*1P36B+A4TXV01+TDR	16.00	13.00	24000	17,800	815	540
	A96US2V070B12	E*1P23B+A4TXV01+TDR	16.00	13.00	24000	17,800	800	600
	A96US2V070B12	E*1P29B+A4TXV01+TDR	16.00	13.00	24000	17,800	800	600
	A96US2V070B12	E*1P30B+A4TXV01+TDR	16.00	13.00	24000	17,800	800	600
	A96US2V070B12	E*1P36B+A4TXV01+TDR	16.00	13.00	24000	17,800	800	600
A96US2V090C12	E*1P30C+A4TXV01+TDR	16.00	13.00	24000	17,800	800	600	

Note:

¹ Certified in accordance with Unitary Air Conditioner Certification Program, which is based on AHRI Standard 210/240

² Required to achieve AHRI rating. If NA (Not Applicable) is in the piston column, then TXV is required

³ A blower time delay relay is required to achieve AHRI rating. This feature is standard on all Allied Air Enterprises Furnace and AH products

Outdoor Model	Variable Speed Furnace	Indoor Model		SEER	EER	AHRI Rate Capacity ¹ BTUH	Sensible Rated Capacity	CFM High	CFM Low
		Evap. Coil or Air Handler ³							
4SCU16LS124P-3	A96DS2V045B12	E*1P36B+A4TXV01+TDR		14.50	12.20	22000	16,300	800	580
	A96DS2V070B16	E*1P36B+A4TXV01+TDR		14.50	12.20	22000	16,300	825	580
	A97USMV070B12	E*1P23B+A4TXV01+TDR		16.00	13.00	24000	17,800	810	530
	A97USMV070B12	E*1P29B+A4TXV01+TDR		16.00	13.00	24000	17,800	810	530
	A97USMV070B12	E*1P30B+A4TXV01+TDR		16.00	13.00	24000	17,800	810	530
	A97USMV070B12	E*1P36B+A4TXV01+TDR		16.00	13.00	24000	17,800	810	530
	A97USMV090C12	E*1P30C+A4TXV01+TDR		16.00	13.00	24000	17,800	800	565
	A97DSMV070B12	E*1P36B+A4TXV01+TDR		14.50	12.20	22000	16,300	825	575
	L85B*1V67/87E14	E(U,C,M,H)1P36B+A4TXV01		14.50	12.20	24000	17,800	850	650
	L85UF1V67/87E14	E(U,C,M,H)1P36B+A4TXV01		14.50	12.20	24000	17,800	850	650
4SCU16LS136P-3		BCS2M36V00NA1P+A4TXV01		15.10	12.20	34400	25000	1200	840
		BCS2M48V00NA1P+A4TXV01		16.00	12.20	34400	25000	1250	850
		BCE4M36S*		16.00	12.20	34400	25000	1250	850
		BCE4M48S*		16.00	12.20	34400	25000	1200	840
	EFV12BC	E(U,C,M,H)1P36B+A4TXV01		15.10	12.20	34400	25000	1200	840
	EFV12BC	E(U,C,M,H)1P43B+A4TXV01		16.00	12.20	34400	25000	1200	840
	A80UH1E090B16*	E(U,C,M,H)1P43B+A4TXV01		14.50	12.20	34400	25000	1200	840
	A80US2V090B16	E(U,C,M,H)1P43B+A4TXV01		15.10	12.20	34400	25000	1200	840
	A80US2V090C20	E(U,C,M,H)1P36C+A4TXV01		16.00	12.20	34400	25000	1200	840
	A80DS2V090B16	E(U,C,M,H)1P43B+A4TXV01		14.50	12.20	33000	24000	1200	840
	A80DS2V110C20	E(U,C,M,H)1P36C+A4TXV01		14.50	12.20	33000	24000	1200	840
	A80DS2V110C20	E(U,C,M,H)1P43C+A4TXV01		14.50	12.20	33000	25000	1200	840
	A96US2V090C12S	E(U,C,M,H)1P36C+A4TXV01		15.10	12.20	34400	25000	1200	840
	A96US2V090C12S	E(U,C,M,H)1P43C+A4TXV01		15.10	12.20	34400	25000	1200	840
	A96US2V090C16S	E(U,C,M,H)1P43C+A4TXV01		15.10	12.20	34400	25000	1200	840
	A96US2V090C20S	E(U,C,M,H)1P43C+A4TXV01		16.00	12.20	34400	25000	1200	840
	A96US2V110C16S	E(U,C,M,H)1P36C+A4TXV01		15.10	12.20	34400	25000	1200	840
	A96US2V110C16S	E(U,C,M,H)1P43C+A4TXV01		15.10	12.20	34400	25000	1200	840
	A96US2V110C20S	E(U,C,M,H)1P36C+A4TXV01		15.10	12.20	34400	25000	1200	840
	A96US2V110C20S	E(U,C,M,H)1P43C+A4TXV01		15.10	12.20	34400	25000	1200	840
A96DS2V090C20S	E(U,C,M,H)1P43C+A4TXV01		14.50	12.20	33000	24000	1200	840	
A96DS2V110C20S	E(U,C,M,H)1P43C+A4TXV01		14.50	12.20	33000	24000	1200	840	

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Outdoor Model	Variable Speed Furnace	Indoor Model	SEER	EER	AHRI Rate Capacity ¹ BTUH	Sensible Rated Capacity	CFM High	CFM Low
		Evap. Coil or Air Handler ³						
4SCU16LS136P-3	A97USMV090C12*	E(U,C,M,H)1P36C+A4TXV01	16.00	12.20	34400	25000	1200	840
	A97USMV090C12*	E(U,C,M,H)1P43C+A4TXV01	15.10	12.20	34400	25000	1200	840
	A97USMV090C16*	E(U,C,M,H)1P36C+A4TXV01	16.00	12.20	34400	25000	1200	840
	A97USMV090C16*	E(U,C,M,H)1P43C+A4TXV01	16.00	12.20	34400	25000	1200	840
	A97USMV110C20*	E(U,C,M,H)1P36C+A4TXV01	16.00	12.20	34400	25000	1200	840
	A97USMV110C20*	E(U,C,M,H)1P43C+A4TXV01	15.10	12.20	34400	25000	1200	840
	A97DSMV090C16*	E(U,C,M,H)1P43C+A4TXV01	14.50	12.20	33000	24000	1200	840
	A97DSMV090C20*	E(U,C,M,H)1P43C+A4TXV01	14.50	12.20	33000	24000	1200	840
	A97DSMV110C20*	E(U,C,M,H)1P43C+A4TXV01	14.50	12.20	33000	24000	1200	840
4SCU16LS148P-3		BCS2M48V00NA1P+A4TXV02	16.00	12.00	46500	35800	1600	1120
		BCE4M48S*	15.10	11.70	46000	35800	1650	1150
	EFV16CC	E(U,C,H)1P62C+A4TXV02	15.10	11.70	46500	35800	1600	1120
	EFV20DC	E(U,C)1P62D+A4TXV02	15.10	11.70	46500	35800	1600	1120
	A80UH1E090C20*	E(U,C,H)1P62C+A4TXV02	15.10	11.70	46500	35800	1600	1120
	A80UH1E110C20*	E(U,C,H)1P62C+A4TXV02	15.10	11.70	46500	35800	1600	1120
	A80US2V110C20	E(U,C,H)1P62C+A4TXV02	16.00	12.00	46500	35800	1600	1120
	A80DS2V110C20	E(U,C,H)1P62C+A4TXV02	14.50	11.70	45000	34700	1600	1120
	A80US2V135D20	E(U,C)1P62D+A4TXV02	15.10	12.00	46500	35800	1600	1120
	A95UH1E110C20S	E(U,C,H)1P62C+A4TXV02	15.10	11.70	46500	35800	1600	1120
	A95UH2E090C16S	E(U,C,H)1P62C+A4TXV02	15.10	11.70	46500	35800	1600	1120
	A96US2V090C16S	E(U,C,H)1P62C+A4TXV02	15.10	11.70	46500	35800	1600	1120
	A96US2V090C20S	E(U,C,H)1P62C+A4TXV02	16.00	11.70	46500	35800	1600	1120
	A96US2V110C20S	E(U,C,H)1P62C+A4TXV02	16.00	11.70	46500	35800	1600	1120
	A96DS2V090C20S	E(U,C,H)1P62C+A4TXV02	14.50	11.70	45000	34700	1600	1120
	A96DS2V110C20S	E(U,C,H)1P62C+A4TXV02	14.50	11.70	45000	34700	1600	1120
	A96US2V135D20S	E(U,C,H)1P62D+A4TXV02	16.00	12.00	46000	35800	1600	1120
	A97USMV090C16*	E(U,C,H)1P62C+A4TXV02	15.10	11.70	46500	35800	1600	1120
	A97USMV090C20*	E(U,C,H)1P62C+A4TXV02	16.00	11.70	46500	35800	1600	1120
	A97USMV110C20*	E(U,C,H)1P62C+A4TXV02	16.00	12.00	46500	35800	1600	1120
	A97USMV135D20*	E(U,C)1P62D+A4TXV02	16.00	12.20	46000	35800	1600	1120
	A97DSMV090C16*	E(U,C,H)1P62C+A4TXV02	14.50	11.70	45000	34700	1600	1120
	A97DSMV090C20*	E(U,C,H)1P62C+A4TXV02	14.50	11.70	45000	34700	1600	1120
	A97DSMV110C20*	E(U,C,H)1P62C+A4TXV02	14.50	11.70	45000	34700	1600	1120

Note:

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Outdoor Model	Variable Speed Furnace	Indoor Model	SEER	EER	AHRI Rate Capacity ¹ BTUH	Sensible Rated Capacity	CFM High	CFM Low
		Evap. Coil or Air Handler ³						
4SCU16LS16OP-3	A80US2V090C20	E(U,C,H)1P62C+A4TXV02	16.00	12.00	57000	41600	1800	1290
		BCE4M60S*	15.5	11.7	57000	41600	1800	1290
	A80UH1E090C20	E(U,C,H)1P62C+A4TXV02	15.5	12.20	56000	41600	1800	1290
	A80UH1E110C20	E(U,C,H)1P62C+A4TXV02	15.5	12.20	57000	41600	1800	1290
	A80UH1E135D20	E(U,C,H)1P62D+A4TXV02	15.5	12.00	57000	41600	1800	1290
	A95UH1E110C20	E(U,C,H)1P62C+A4TXV02	15.5	12.20	57000	41600	1800	1290
	A95UH1E135D20	E(U,C,H)1P62D+A4TXV02	15.00	11.70	57000	41600	1800	1290
	A95UH2E110C20	E(U,C,H)1P62C+A4TXV02	15.5	12.20	57000	41600	1800	1290
	A95UH2E135D20	E(U,C,H)1P62D+A4TXV02	15.00	11.70	57000	41600	1800	1290
	A80US2V110C20	E(U,C,H)1P62C+A4TXV02	15.5	11.70	57000	41600	1800	1290
	A80US2V135D20	E(U,C,H)1P62D+A4TXV02	15.5	12.00	57000	41600	1800	1290
	A96US2V090C20	E(U,C,H)1P62C+A4TXV02	15.5	11.70	57000	41600	1800	1290
	A96US2V110C20	E(U,C,H)1P62C+A4TXV02	15.5	11.70	57000	41600	1800	1290
	A96US2V135D20	E(U,C,H)1P62D+A4TXV02	15.5	11.70	57000	41600	1800	1290
	A97USMV090C20	E(U,C,H)1P62C+A4TXV02	15.5	11.70	57000	41600	1800	1290
	A97USMV110C20	E(U,C,H)1P62C+A4TXV02	15.5	11.70	57000	41600	1800	1290
	A97USMV135D20	E(U,C,H)1P62D+A4TXV02	15.5	12.00	57000	41600	1800	1290

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COOLING PERFORMANCE - EXTENDED RATINGS

Outdoor Model	Indoor Model		Indoor Temp DB/WB °F	Outdoor Temperature - DB °F											
				85°			95°			105°			115°		
				Btuh	S/T	kW	Btuh	S/T	kW	Btuh	S/T	kW	Btuh	S/T	kW
4SCU16LS124P-3	E*1P30B+A4TXV01	A80US2V090B12	75/63	25.8	0.78	1.41	24.6	0.80	1.61	23.2	0.82	1.83	21.8	0.85	2.08
			80/67	27.2	0.76	1.42	25.8	0.78	1.62	24.4	0.80	1.84	23.0	0.82	2.09
			85/72	28.4	0.73	1.43	27.0	0.75	1.63	25.2	0.77	1.85	24.0	0.80	2.11
4SCU16LS136P-3	E(U,C,M,H)1P43B+A4TXV01	EFV12BC	75/63	36.2	0.74	2.25	34.4	0.75	2.92	33.0	0.77	3.22	31.0	0.80	3.63
			80/67	37.2	0.71	2.28	35.4	0.72	2.95	34.0	0.74	3.25	32.0	0.77	3.66
			85/72	38.2	0.68	2.31	36.4	0.69	2.98	35.0	0.71	3.28	33.0	0.74	3.69
4SCU16LS148P-3	BCS2M48V00NA1P+A4TXV02		75/63	48.5	0.78	3.27	46.5	0.79	3.78	45.0	0.81	4.10	43.2	0.83	4.52
			80/67	52.0	0.75	3.30	48.7	0.77	3.83	46.0	0.79	4.21	44.5	0.81	4.59
			85/72	54.5	0.72	3.60	50.0	0.74	3.94	48.5	0.76	4.28	46.5	0.78	4.65
4SCU16LS160P-3	E(U,C,H)1P62C+A4TXV02	A80US2V090C20	75/63	61.5	0.78	3.66	58.5	0.79	4.15	55.0	0.82	4.73	51.5	0.84	5.41
			80/67	65.0	0.75	3.71	62.0	0.77	4.21	58.5	0.79	4.79	54.5	0.82	5.46
			85/72	68.5	0.73	3.75	65.0	0.74	4.23	61.5	0.77	7.82	57.5	0.79	5.52

*Notes:
Extended data shown is actual for models listed and typical for all AHRI matches.*

ACCESSORIES

System Accessory	Where Used	Kit Number	Usage
Liquid Line solenoid	All models	60M52	Prevents liquid migration to the compressor especially for high liquid riser applications
Low ambient (cooling operation)	All models	34M72	Enables cooling demand down to 30 °F. Will require freeze stat, CC heater and TXV
Crankcase Heater	All models	Factory Installed	Prevents liquid migration to compressor in cold weather
Sound Cover	All models	Factory Installed	Lowers compressor sound level
Hard Start	24	63W22	Scroll compressors usually do not require hard start; maybe needed for utility brown-out or low voltage areas
	36 & 48	10J42	
	60	63W24	
Loss of Charge Kit	All models	Factory Installed	Protects the compressor if refrigerant charge is too low
Additional System Accessories (indoor section)			
TXV Kit	18, 24, 30	H4TXV01	TXVs provide superior refrigerant flow control, comfort and efficiency compared to pistons
	36, 41, 42, 47, 48	H4TXV02	
	59, 60	H4TXV03	
Outdoor Thermostat - electric heat	All models	10Z23 (56A87)	Prevents electric heat operation above specific ambient conditions
Outdoor Thermostat - Mounting box	All models	31461	Mounting box for outdoor thermostat
Freeze stat	All models	93G35	Protects the compressor at low suction pressure conditions
Overflow switch	All models	11U75	Turn the system off, if condensate water overflows due to clogged drain pipes
Single point power supply	All models	21H39	Provide single power source in one junction box
Auxiliary blower relay	All models	85W66	Maybe required to select multiple indoor blower speeds



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All specifications and illustrations subject to change without notice and without incurring obligations.