

Room Air-conditioners conforming to the Australian Standard for DRED (Demand Response Enabling Devices)



SRK20 to 60ZMXA series

Sales department
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With the world's growing awareness of environmental conservation, especially the necessity of measures against global warming, demand response is becoming widely adopted to reduce peak power demand. In Australia, in particular, the demand response standard known as demand response enabling devices (DRED) has been established, introducing this standard to some selected appliances including air conditioners. There is already a rebate system in effect for the purchase of products conforming to the DRED standards.

Mitsubishi Heavy Industries, Ltd. (MHI) has developed DRED standard-compliant wall-mounted room air conditioners for the Australian market with brand-new remote controls with additional functions: the ZMA series (8 models) and the ZMXA series (5 models). Their features are introduced in this report.

1. Features

1.1 DRED-compliant control

(1) Attaching importance to how a user feels

Our DRED control enables operation attaching importance to how the user "feels" while controlling the power consumed in a certain time period, even during periods when demand response is requested by electric power companies, by allocating sufficient power when necessary (e.g., at the time of starting the air conditioner, during which expected performance should be fulfilled) (**Figure 1**).

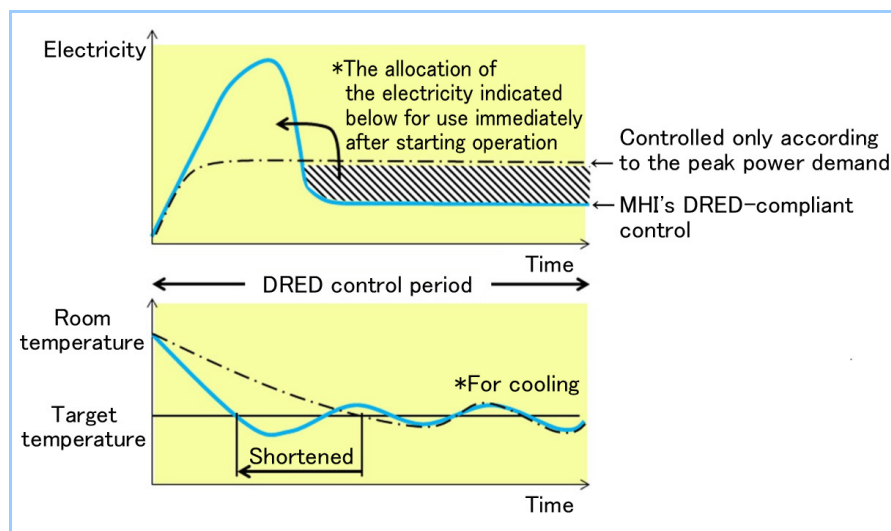


Figure 1 Schematic diagrams of air conditioner operation during the DRED control period

(2) All power restriction modes are available

Highly accurate calculation of the total amount of power consumed during air conditioner operation enables not only power restriction mode 1 (stopping the compressor), which is mandatory under the DRED standard, but also mode 2 (50% operation) and mode 3 (75% operation), which are optional. **Figure 2** gives an example of a DRED connection configuration.

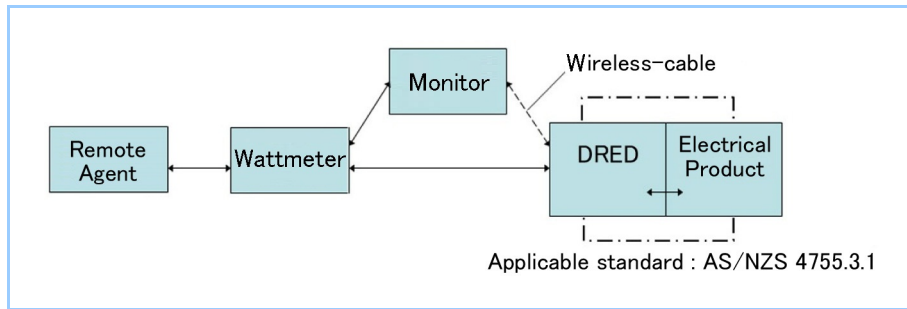


Figure 2 DRED connection configuration

- (3) Compact design that fits the sizes of the current outdoor units

The development of a compact DRED controller has enabled its installation inside the current outdoor units for the Australian market, thus realizing the DRED compliant function without increasing the size of outdoor units (**Figure 3**).

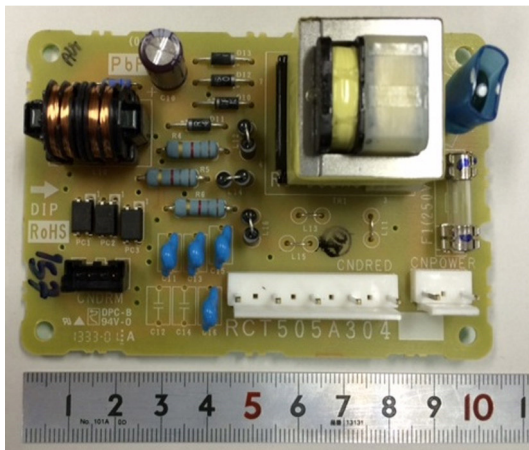


Figure 3 DRED circuit board

1.2 Multifunctional remote control with excellent usability

The new remote controller can set a silent mode for the indoor or outdoor unit or both, a weekly timer for a weekly operation schedule, and a night setback to prevent the overcooling of rooms during long-term absences (weak heating operation). In spite of these additional functions, the less frequently used buttons can be stored under a cover on the remote controller, allowing for a larger liquid crystal display with improved usability.

2. Specifications

Table 1 shows the major specifications of the SRK-ZMA-S and SRK-ZMXA-S series.

Table 1 Specifications list

		SRK-ZMA-S series								
		20	25	35	50	63	71	80	92	
Class		Single-phase 220-240 V								
Rated capacity	Cooling	2.0	2.5	3.3	5.0	6.3	7.1	8.0	9.2	
	Heating	2.7	3.2	4.0	5.8	7.1	8.0	9.0	10.0	
Rated power consumption	Cooling	440	575	870	1550	1760	2160	2350	2540	
	Heating	620	700	955	1590	1790	2140	2570	2840	
Limit electrical energy by DRM2 (for 30 min.)*1	Cooling	110	143	217	387	440	540	587	635	
	Heating	155	175	238	397	447	535	642	710	
Limit electrical energy by DRM3 (for 30 min.)*2	Cooling	165	215	326	581	660	810	881	952	
	Heating	232	262	358	596	671	802	963	1065	
External dimensions (Height × Width × Depth)	Indoor unit	294×798×22							318×1098×248	
	Outdoor unit	540×780×290		595×780×290	640×800×290		750×880×340	845×970×370	1300×970×370	
		SRK-ZMXA-S series								
Class		20	25	35	50	60				
		Single-phase 220-240 V								
Rated capacity	Cooling	2.0	2.55	3.5	5.0	6.0				
	Heating	2.5	3.13	4.3	6.0	6.8				
Rated power consumption	Cooling	350	490	845	1300	1860				
	Heating	450	595	960	1360	1670				
Limit electrical energy by DRM2 (for 30 min.)*1	Cooling	87	122	211	325	465				
	Heating	112	148	240	340	417				
Limit electrical energy by DRM3 (for 30 min.)*2	Cooling	131	183	316	487	697				
	Heating	168	223	360	510	626				
External dimensions (Height × Width × Depth)	Indoor unit	309×890×220							640×800×290	
	Outdoor unit	595×780×290								

*1: The amount of power consumed during DRED Mode 2 (50%) operation

*2: The amount of power consumed during DRED Mode 3 (75%) operation