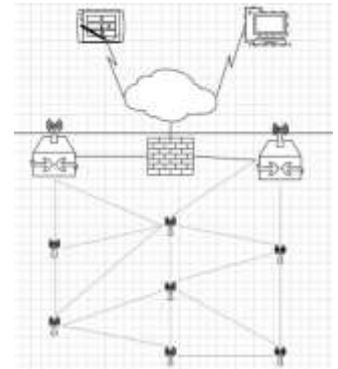


Information Sheet – Rayzig

Rayzig is an Electrical power control system that has been designed to meet the needs of commercial, light industrial and Electrical Power Utilities.

Rayzig uses a combination of 2.4GHz wireless modules to achieve a mesh network, which may be extended to outlying buildings by use of cabled 'Bridges' – up to 500m with direct bridges, otherwise over an IP network. The 'bridges' allow the main network to extend to up to 6 sub-networks, and still be controlled from locations within the network.



Systems can handle a large number of modules using the Atmel Light Weight Mesh (LWMesh), and multiple networks, or sites, can be accessed using the Rayzig Site software.

Rayzig can operate a large combination of modules, both input and output, with control being direct from an input node to and output node, or through the use of Zones, Schedules, or Themes. A Home/Away feature allows a site to be set to a predetermined state on either leaving the building/site (away), or when entering the building/site (home). Rayzig Networks can be extended to adjacent buildings by use of direct 'Wire Bridges', or using existing IP Networks. Use of a Gateway in these 'Segments' allows additional control being capable.

The network and modules operate without the need for any 'co-ordinator' or 'instigator'. This means in the event of a partial failure of power in the building, the unaffected modules can still operate, and with Battery Input devices the number of modules affected by power outage is minimised.

The LWMesh will ensure that the best wireless signal route to, and from, a module is always chosen. Details of the routes can be shown. The mesh minimises the impact of a device failure, as alternate routes can be chosen by the network to reach the target module.

address	location	status	type	zone	sub	val	val	val	val	val	description	location	note function
E1001	Office	on	Sound	Office	G1	0	0	0	0	0	Rayzig Gateway EMC	Office 1	USB LAN/TFT gateway
E1002	Office	on	Sound	Office	G1	0	0	0	0	0	Rayzig Gateway EMC	Office 1	USB LAN/TFT gateway
E1003	Office	on	Sound	Office	G1	0	0	0	0	0	Rayzig Gateway EMC	Office 1	USB LAN/TFT gateway
E1004	Office	on	Sound	Office	G1	0	0	0	0	0	Rayzig Gateway EMC	Office 1	USB LAN/TFT gateway
E1005	Office	on	Sound	Office	G1	0	0	0	0	0	Rayzig Gateway EMC	Office 1	USB LAN/TFT gateway
E1006	Office	on	Sound	Office	G1	0	0	0	0	0	Rayzig Gateway EMC	Office 1	USB LAN/TFT gateway
E1007	Office	on	Sound	Office	G1	0	0	0	0	0	Rayzig Gateway EMC	Office 1	USB LAN/TFT gateway
E1008	Office	on	Sound	Office	G1	0	0	0	0	0	Rayzig Gateway EMC	Office 1	USB LAN/TFT gateway
E1009	Office	on	Sound	Office	G1	0	0	0	0	0	Rayzig Gateway EMC	Office 1	USB LAN/TFT gateway
E1010	Office	on	Sound	Office	G1	0	0	0	0	0	Rayzig Gateway EMC	Office 1	USB LAN/TFT gateway

ModuleID	port	sender	on/off	level	day	date	time	status
2090	2	F001	on	96	wed	22/01/2020	00:00:00	EMODE_GAILY_STATUS
2090	2	F001	on	96	wed	22/01/2020	11:26:53	EMODE_SWITCH_ONOFF
2090	2	F001	on	96	wed	22/01/2020	11:27:01	EMODE_SWITCH_ONOFF
2090	2	F001	off	79	wed	22/01/2020	11:27:10	EMODE_SWITCH_ONOFF
2090	2	F001	off	96	wed	22/01/2020	11:26:57	EMODE_SWITCH_ONOFF

Details of what is happening within an output module is recorded, and through the Gateway this information can be used externally to provide analysis of power usage and device usage.

Battery modules have a battery level indicator which can be set so that when the internal battery needs to be replaced a message can be shown on the Gateway TFT, or through the Rayzig Management Software.

ModuleID	location	zone	status	battery level
B001	Ground	Office	on	<33.67V
B002	Ground	Office	on	<3.00V
B014	Ground	Office	on	<3.00V
B016	Ground	Office	on	<3.00V



Raymon is the PC based Management Software for Rayzig, which allows setup and control of modules, and the ongoing management of the system.



id	load name	hw	zone	ratio	off	delay	sec.	A	B	C	D	notes
RZ0001	Pw1889144 Rayzig main subnet gateway on channel 16	192.168.1.143-3143										
VA	Four sets of DALI fluorescents on 6012	0	805	1	0	0	0	0	0	0	0	Make my office look like a boring studio.
VA	Office lighting on 6010 and 0057	1	807	1	0	0	0	0	0	0	0	Central 1-10v fluorescent on part 4
VA	Dali dene on 6016	1	808	1	0	0	0	0	0	0	0	Four DALI controlled spot lamps
RZ0013	Pw145725555 Costalst shopping arcade	costalst.org.uk:3366										
RZ0067	Pw177653 Frosty Food processing plant	power.krotzfood.com:2333										
VA	Refrigeration units 2,3 and 4	2	900	120	11	16	0	0	0	0	0	Intermittent load - 2.3kW max
VA	Refrigeration 5 and 6	3	914	120	13	16	0	1	0	0	0	
RZ0001	Pw343434 Rayzig subnet A gateway on channel 24	192.168.1.140-3140										
VA	Test relay output module 7A02	0	817	3	0	0	0	0	0	0	0	Device only - has no loads
RZ0001	Pw897897 Rayzig subnet D gateway on channel 12	192.168.1.142-3142										
VA	test relay output module 7D02	0	800	2	0	0	0	0	0	0	0	
RZ0034	Pw33445 Crunchy Crisp Ltd	www.crunchy-crisps.co.uk:3344										
VA	Main crisp cooker	8	800	240	8	21	0	0	0	0	0	Flow - crunches alot of crisps
VA	Waste disposal unit	10	814	120	5	21	0	0	0	0	0	

It can be used to save information to a MySQL database, review Module operations, access remote sites, and be used to manage site agreed module shutdown.

The Rayzig system is feature rich, and this Information Sheet can only give a glimpse into Rayzig's capabilities.

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