Case Study: Selective Deployment with TS4 defines Commercial Plug-n-Play

Tigo’s retrofitted optimization & monitoring TS4 units help pay off a rooftop self-watering solar irrigation system and immediately identify a carport string outage within first days of installation.

Tigo Products: 1 CCA, 4 Gateways, 95 TS4-R-O (Optimization), 210 TS4-R-M (Monitoring)
Modules: 300 LG NeON2 325W & LG325N1C-A5
Inverters: SMA - STP50-40 & STP15000TL-10
Location: Ringwood, Victoria 3134, Australia
System Size: 97.5kW

Summary
With 300 panels and a combination of Tigo TS4-R-O (Optimization) & TS4-R-M (Monitoring) units, this commercial PV system is saving its autobody shop major electricity costs. The roof and carport system also feature 12 zone self-watering solar irrigation, high pressure pump, and 112kwh lead carbon battery bank all designed and installed by Lumenaus Solar. Within the first days of installation, Tigo alerted the owners of a string outage. Lumenaus states the overall “performance is outstanding.”

Customer Service
Lumenaus Solar also boasts that “the personal service we received from Jeff Routledge [APAC Sales Manager] at Tigo was outstanding!”

The carport and roof installations featured Tigo’s retrofitted/add-on TS4-R-O and TS4-R-M units for shade optimization and module-level monitoring.
The Challenge
This Australian PV system is in a high dust area and requires daily cleaning. A monitoring and optimization solution was needed to keep the panels clean and account for shaded panels in order to pay off the $25K self-watering irrigation system. "The effect of panel temperature reduction in summer months remains to be seen," says Lumenaus CEO Michael Califano – which is “one of the reasons we fitted panel-level monitoring [and optimization] using Tigo to see if we could quantify this benefit, if any.”

Lumenaus Solar shares that their “priority on this project was to monitor the effectiveness of our self-cleaning panel system, but also to optimise around certain areas close to the roof lines and where the upper carport shades the lower section during certain parts of the day.

The Solution
“The Tigo system allowed us to do that using a mixture of monitoring-only and fully-optimised units to keep costs down for the client,” confirms Lumenaus. They estimate that the payback of the system will be equivalent to 20 manual cleanings at $1,250AUD which the lifetime warranty of the self-cleaning equipment will long surpass.

Retrofitted modules with Tigo’s TS4-R-M (Monitoring) units “allow us to monitor the effectiveness of our Solar Irrigation System, which was necessary for daily panel cleaning due to ongoing concrete dust leeching from a nearby Cement Factory.” - Lumenaus

“The carport and autobody roof PV systems generate power with 300 total PV modules.

The PV system’s inverters and batteries are housed safely inside for easy access during maintenance.