



Fig. 1: Cast in leg

Ground Mounted PV structure:

Rubicon's Monopole PV ground mounted structure is designed with maximum flexibility and minimum effort in mind. The standard structure is capable of mounting 60 cell crystalline, 72 cell crystalline and Thin-film modules, all with the same part number for the base structure. This design allows up to 18 panels to be mounted with only 3 legs into the ground.

GMS Structure is designed in a 6m multiples, allowing almost no maximum limit of panels in each row.

Popular uses:

- Water pumping
- Ground mounted industrial installations
- Farm use
- Commercial PV installations

Material overview:

The structure is supplied in kit form, with each of the following parts and quantities:

Part	Qty for Crystalline panels	Qty for SF Thin-film panels
For every 6m set you need:		
TEEs (RUB-GMS-T15/30-CI or RUB-GMS-T15/30-F)	3	3
Strut rail (SS-1.6HDG or SS-2.5HDG)	4	6
PowAR Snaps	4 per panel	4 per panel
For each additional 6m set, add:		
RUB-SS-JOINER/GALV	4	6
Add per individual row of joined sets:		
End stops	8	12

Installation overview:

Concrete foundations are required for each TEE. There are 2 types: 1) Cast in or 2) Threaded bar / baseplate. Each option is shown below:

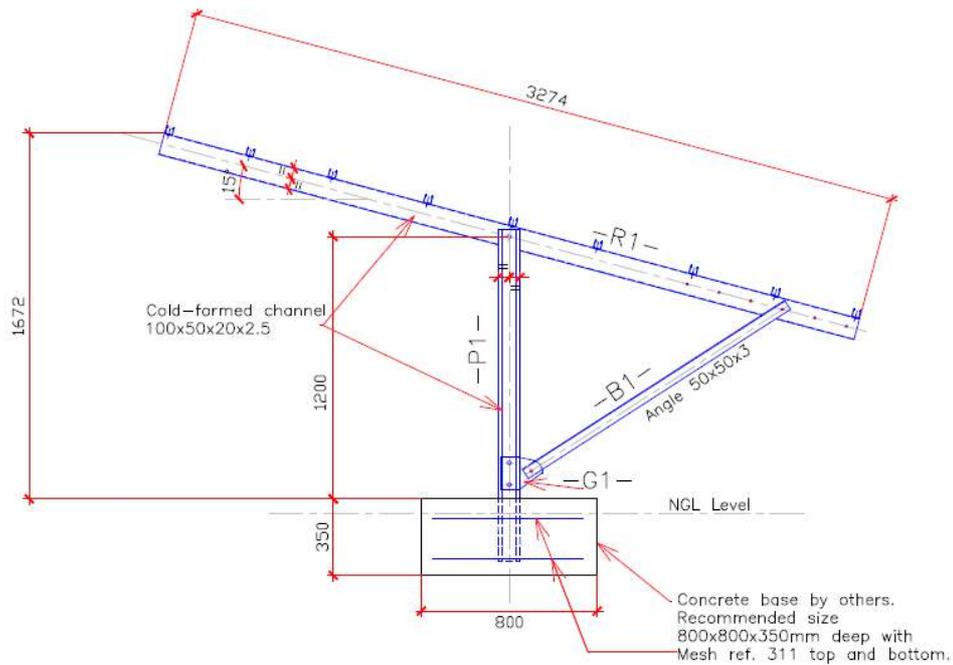


Fig. 2: General arrangement, cast in leg

Step 1: (Complete this step for all TEEs)

Cast concrete as per arrangement in fig 4 and according to dimensions shown in figs. 2 and 3.

- i) **Cast in leg:** With reference to figure 2, install the vertical upright [P1] into the wet concrete. The pivot hole at the top of the channel should be approx. 1200mm above nominal ground level.
- ii) **Baseplate:** With reference to figure 3 and with the use of chemical anchors, install the 2 threaded bars into the cured concrete. Attach and secure baseplate [G2] and upright [P1] to the threaded bars. The pivot hole at the top of the channel should be approx. 1200mm above nominal ground level.

Step 2: (Complete this step for all TEEs)

Attach top member [R1] to the previously installed upright member at the pivot point, with the single bolt provided.

Step 3: (Complete this step for all TEEs)

- i) **Cast in leg:** Install plate [G1] onto the upright with the 2 supplied bolts. Install the brace [B1] between the pre-drilled hole in [G1] and relevant pre-drilled hole in [R1] to secure the top member into the correct location and set the desired angle.
- ii) **Baseplate:** Install the brace [B1] between the pre-drilled hole in [G2] and relevant pre-drilled hole in [R1] to secure the top member into the correct location and set the desired angle.

Step 4:

Install the supplied 6m rails as needed. For crystalline modules (60 cell or 72 cell), install 4 rails into the pre-punched holes as shown below:

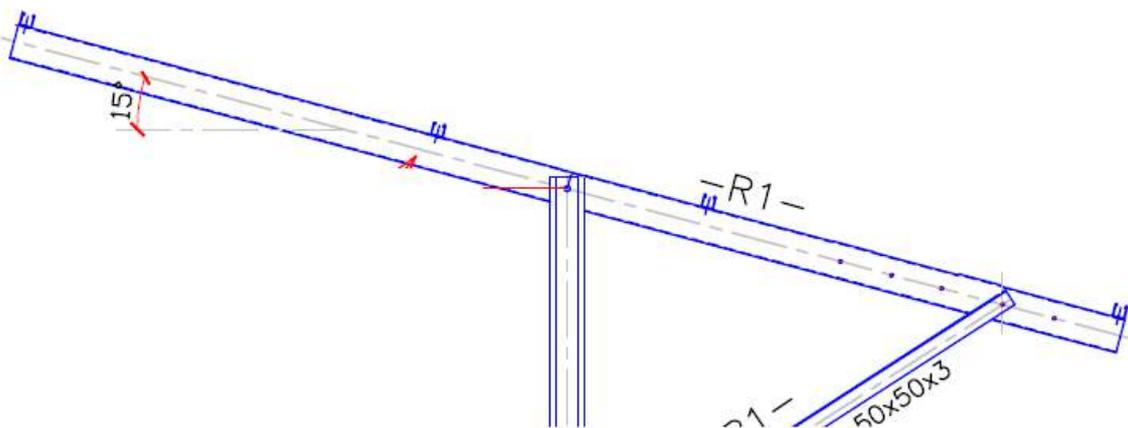


Fig. 5: Crystalline rail spacing

For SolarFrontier modules, install 6 rails into the pre-punched holes as shown below:

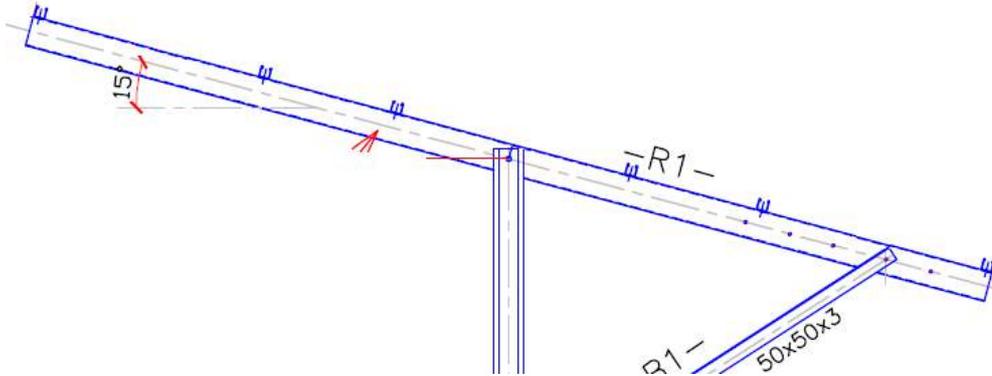


Fig. 6: Thin film rail spacing

Step 5:

Install the modules onto the rails using the ARaymond PowAR Snaps. Start by Installing the PowAR Snaps onto the modules and then snap the modules into the rails. (See PowAR Snap installation guide for more info). Each 6m module of GMS will accommodate 12 crystalline or 18 thin film modules.

Use rail joiners to join each rail of 2 GMS 6m modules together.

Step 6:

Install the end stops at the ends of all the rails.

Material detail:

Part	Description
Base structure finish	Pre-galvanised mild steel
Module fixing system	Rear mounted ARaymond PowAR Snap, magnicoated
Ground fixing	3 x concrete block per 6m structure (Flange or cast-in mounting)

Capacity and Specifications:

6m multiple:	SF Thin Film	60 cell crystalline	72 cell crystalline
No. panels (+- wattage)	18 (3060W)	12 (3180W)	12 (3840W)
No. of rows X no. of modules	3 x 6	2 x 6	2 x 6
Module orientation	Portrait	Portrait	Portrait
Concrete base dimension (min).	800 x 800 x 350mm	800 x 800 x 350mm	800 x 800 x 350mm
Wind load design	90kmh	90kmh	90 kmh
Bracing spacing	1 set of 3 per 15m	1 set of 3 per 15m	1 set of 3 per 15m
Angle adjustment range	0 - 30°	0 - 30°	0 - 30°

Ordering information:

How to order:

The GMS system is sold in 6m multiples which can be joined together for larger projects. For each 6m section, you need the following:

Part	Qty for Crystalline panels	Qty for SF Thin-film panels
For every 6m set you need:		
TEEs (RUB-GMS-T15/30-CI or RUB-GMS-T15/30-F)	3	3
Strut (SS-1.6HDG or SS-2.5HDG)	4	6
PowAR Snaps	4 per panel	4 per panel
For each additional 6m set, add:		
RUB-SS-JOINER/GALV	4	6
Add per individual row of joined sets:		
End stops	8	12

Part numbers:

Description	Part no.:
Upright, 1 TEE incl. angle stay (cast-in to concrete)	RUB-GMS-T15/30-CI
Upright, 1 TEE incl. angle stay (flange mt, with stud bar)	RUB-GMS-T15/30-F
Bracing set (3 x "X")	RUB-GMS-CROSSBRACE
1,6mm hot dip galv mounting rail,	SS-1.6HDG
2,5mm hot dip galv mounting rail, punched	SS-2.5HDG
ARaymond PowAR Snap (with earthing)	237390000
ARaymond antitheft PowAR Snap (with earthing)	232147000
Rail end stop	SS-ES-GALV
Rail splice kit	RUB-SS-JOINER/GALV



