

RS Latch / SR Latch

Data

IDs:

- 201, 2 [block, metadata]
- 457, 2 [item, damage]

Name:

- RS Latch

Texture:

- MoareAI/Blocks/DigitalFunctions.png, Index 18

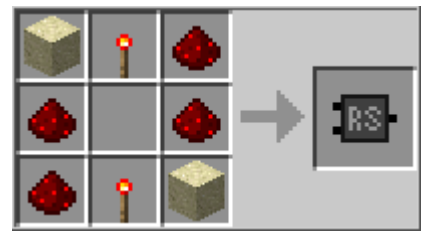
Icon:

- MoareAI/Items/MDRS.png



Recipes

Sand	Redstone Torch	Redstone	=>	RS Latch
Redstone		Redstone		
Redstone	Redstone Torch	Sand		



Interacting

After crafting the item “RS Latch” you can place it on the ground as the block “RS Latch (Off)”, which will automatically power the output if the requirements are met (see function).

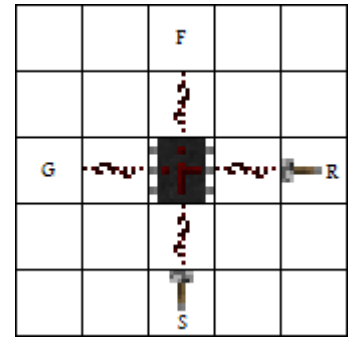
To pick it up again, destroy it by hitting it (one hit is enough) or by destroying the block underneath. This will yield the item “RS Latch”. This will also happen if the gate comes in contact with water.

In contact with lava, both the item and the block is completely destroyed.

How to wire the gate

Wire as seen on the image, where “S” and “R” are the inputs and “F” and “G” are the outputs.

The connection for the output and the inputs may be in form of a direct signal or indirect signal through [Redstone Wires](#).



The function of the gate

As description

The outputs holds the signal of “S” if there is no inputs, if there is a signal on “R” the outputs are set to false. If both inputs are on the outputs react differently:

- Output F becomes false (RS)
- Output G becomes true (SR)

As Boolean algebra

$$F = (S + F) \cdot \bar{R}$$

“Output F” equals (“input S” OR “output F”) AND NOT “input R”

$$G = ((S + G) \cdot \bar{R}) + S$$

“Output F” equals ((“input S” OR “output G”) AND NOT “input R”) OR “input S”

As truth table

R	S	F
0	0	F
0	1	1
1	0	0
1	1	0

R	S	G
0	0	G
0	1	1
1	0	0
1	1	1