

AND Gate

Data

IDs:

- 229 [block, on]
- 230 [block, off]
- 483 [item]


Name:

- AND Gate (On) [block, on]
- AND Gate (Off) [block, off]
- AND Gate [item]

Texture:

- MoareAI/Blocks/LGANDOn.png [block, on] 
- MoareAI/Blocks/LGANDOff.png [block, off] 

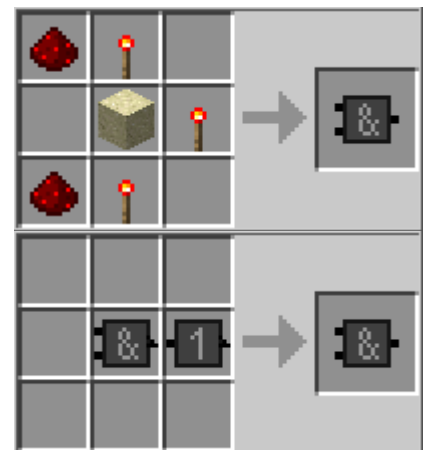
Icon:

- MoareAI/Items/LGAND.png [item] 

Recipe

Redstone (Dust)	Redstone Torch		=>	AND Gate (Item)
	Sand	Redstone Torch		
Redstone (Dust)	Redstone Torch			

NAND Gate (Item)	NOT Gate (Item)	=>	AND Gate (Item)
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Interacting

After crafting the item “AND Gate” you can place it on the ground as the block “AND Gate (Off)”, which will automatically update to “AND Gate (On)” 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 “AND Gate”. 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.

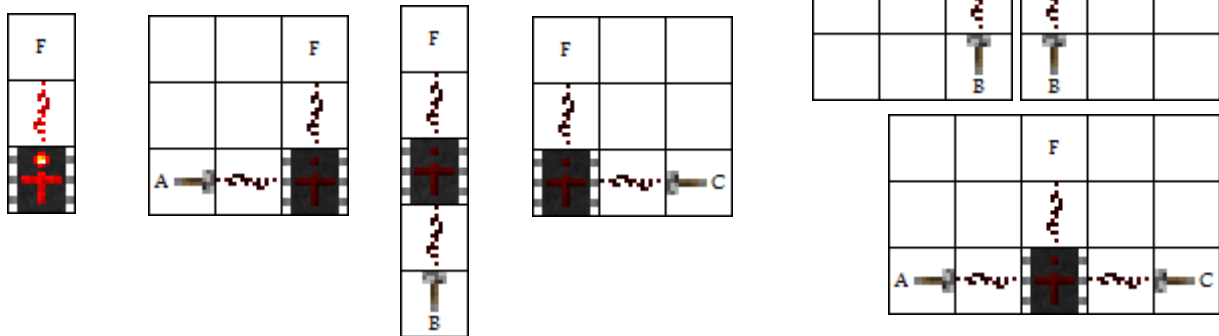
How to wire the gate

The method of wiring, depends on the function (see function) where the number of wired inputs decides which function the gate have.

Wire as seen on the images, where “A”, “B” and “C” are the inputs and “F” is the output.

The input connections may be in form of indirect signals only, through [Redstone Wires](#).

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



The function of the gate

The gate's function is based on how many of the inputs is wired*:

- 3 inputs: 3 input AND gate
- 2 inputs: 2 input AND gate
- 1 input: Input/Output gate
- 0 input: Battery ([Redstone Torch](#))

*Wired doesn't necessary mean a working input connection, but any input with a [Redstone Wire](#) next to it.

3 input AND Gate

As description

The output gives a signal when all inputs (“A”, “B” and “C”) gets a signal.

- If there isn't signal on all of the inputs, there is no signal on the output
- If there is a signal on all of the inputs, there is a signal on the output.

As Boolean algebra

$$F = A \cdot B \cdot C$$

“Output F” equals “input A” AND “input B” AND “input C”

As truth table

C	B	A	F
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	1

2 input AND Gate

As description

The output gives a signal when all of the connected inputs (“A” and “B” or “A” and “C” or “B” and “C”) gets a signal.

- If there isn't signal on all of the connected inputs, there is no signal on the output
- If there is a signal on all of the connected inputs, there is a signal on the output.

As Boolean algebra

$$F = A \cdot B$$

“Output F” equals “input A” AND “input B”

Or

$$F = A \cdot C$$

“Output F” equals “input A” AND “input C”

Or

$$F = B \cdot C$$

“Output F” equals “input B” AND “input C”

As truth table

B	A	F	C	A	F	C	B	F
0	0	0	0	0	0	0	0	0
0	1	0	0	1	0	0	1	0
1	0	0	1	0	0	1	0	0
1	1	1	1	1	1	1	1	1

Input/Output Gate

As description

The output gives a signal when the connected input (“A”, “B” or “C”) gets a signal.

- If there isn't signal on the connected input, there is no signal on the output
- If there is a signal on the connected input, there is a signal on the output.

As Boolean algebra

$$F = A$$

“Output F” equals “input A”

Or

$$F = B$$

“Output F” equals “input B”

Or

$$F = C$$

“Output F” equals “input C”

As truth table

A	F	B	F	C	F
0	0	0	0	0	0
1	1	1	1	1	1

Battery

As description

The output always gives a signal

As Boolean algebra

$$F = 1$$

“Output F” equals TRUE

As truth table

F
1