

## Denaro token smart contract source code

<https://etherscan.io/address/0x10b35b348fd49966f2baf81df35a511c18bd1f80#code>

```
pragma solidity 0.4.18;

/**
 * @title Ownable
 * @dev The Ownable contract has an owner address, and provides basic authorization control
 * functions, this simplifies the implementation of "user permissions".
 */
contract Ownable {
    address public owner;

    /**
     * @dev The Ownable constructor sets the original `owner` of the contract to the sender account.
     */
    function Ownable() public {
        owner = msg.sender;
    }

    /**
     * @dev Throws if called by any account other than the owner.
     */
    modifier onlyOwner() {
        require(msg.sender == owner);
        _;
    }

    /**
     * @dev Allows the current owner to transfer control of the contract to a newOwner.
     * @param newOwner The address to transfer ownership to.
     */
    function transferOwnership(address newOwner) public onlyOwner {
        if (newOwner != address(0)) {
            owner = newOwner;
        }
    }
}

/**
 * @title Pausable
 * @dev Base contract which allows children to implement an emergency stop mechanism.
 */
```

```

contract Pausable is Ownable {
    event Pause();
    event Unpause();

    bool public paused = false;

    function Pausable() public {}

    /**
     * @dev modifier to allow actions only when the contract IS paused
     */
    modifier whenNotPaused() {
        require(!paused);
        _;
    }

    /**
     * @dev modifier to allow actions only when the contract IS NOT paused
     */
    modifier whenPaused {
        require(paused);
        _;
    }

    /**
     * @dev called by the owner to pause, triggers stopped state
     */
    function pause() public onlyOwner whenNotPaused {
        paused = true;
        Pause();
    }

    /**
     * @dev called by the owner to unpause, returns to normal state
     */
    function unpause() public onlyOwner whenPaused {
        paused = false;
        Unpause();
    }
}

/**
 * @title SafeMath
 * @dev Math operations with safety checks that throw on error
 */
contract SafeMath {

```

```
function mul(uint256 a, uint256 b) internal pure returns (uint256) {
    uint256 c = a * b;
    assert(a == 0 || c / a == b);
    return c;
}
```

```
function div(uint256 a, uint256 b) internal pure returns (uint256) {
    uint256 c = a / b;
    return c;
}
```

```
function sub(uint256 a, uint256 b) internal pure returns (uint256) {
    assert(b <= a);
    return a - b;
}
```

```
function add(uint256 a, uint256 b) internal pure returns (uint256) {
    uint256 c = a + b;
    assert(c >= a);
    return c;
}
}
```

```
contract Denaro is Pausable, SafeMath {
```

```
    uint256 public totalSupply;
```

```
    mapping(address => uint) public balances;
```

```
    mapping (address => mapping (address => uint)) public allowed;
```

```
    // ERC20 properties
```

```
    string public constant name = "Denaro";
```

```
    string public constant symbol = "DNO";
```

```
    uint8 public constant decimals = 7;
```

```
    // custom properties
```

```
    bool public mintingFinished = false;
```

```
    uint256 public constant MINTING_LIMIT = 100000000 * (uint256(10) ** decimals);
```

```
    event Transfer(address indexed from, address indexed to, uint256 value);
```

```
    event Approval(address indexed owner, address indexed spender, uint256 value);
```

```
    event Mint(address indexed to, uint256 amount);
```

```
    event MintFinished();
```

```
    function Denaro() public {}
```

```
function() public payable {
    revert();
}
```

```
function balanceOf(address _owner) public view returns (uint256) {
    return balances[_owner];
}
```

```
function transfer(address _to, uint _value) public whenNotPaused returns (bool) {

    balances[msg.sender] = sub(balances[msg.sender], _value);
    balances[_to] = add(balances[_to], _value);

    Transfer(msg.sender, _to, _value);
    return true;
}
```

```
function transferFrom(address _from, address _to, uint _value) public whenNotPaused returns (bool) {
    var _allowance = allowed[_from][msg.sender];

    balances[_to] = add(balances[_to], _value);
    balances[_from] = sub(balances[_from], _value);
    allowed[_from][msg.sender] = sub(_allowance, _value);

    Transfer(_from, _to, _value);
    return true;
}
```

```
function approve(address _spender, uint _value) public whenNotPaused returns (bool) {
    //https://github.com/ethereum/EIPs/issues/20#issuecomment-263524729
    require((_value == 0) || (allowed[msg.sender][_spender] == 0));

    allowed[msg.sender][_spender] = _value;
    Approval(msg.sender, _spender, _value);
    return true;
}
```

```
function allowance(address _owner, address _spender) public view returns (uint256) {
    return allowed[_owner][_spender];
}
```

```
modifier canMint() {
    require(!mintingFinished);
    _;
}
```

```
function mint(address _to, uint256 _amount) public onlyOwner canMint {
    totalSupply = add(totalSupply, _amount);
    require(totalSupply <= MINTING_LIMIT);

    balances[_to] = add(balances[_to], _amount);
    Mint(_to, _amount);
}

function finishMinting() public onlyOwner {
    require(!mintingFinished);
    mintingFinished = true;
    MintFinished();
}

}
```