

# OTD140 Firmware Downloads

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This page contains firmware files for OTD140 devices. Look to the table below or the [changelog](#) to find download links.

To upgrade firmware using WebUI, follow the instructions in [OTD140 Firmware](#).

File	Type	Release date	Size	MD5	Changelog
<a href="#">OTD140_R_00.07.08_WEBUI.bin</a>	Latest FW	2024.07.18	10.19 MB	90719e8380743b0ee7f5ce0c02fbecae	<a href="#">Link</a>
<a href="#">OTD140_R_00.07.07.2_WEBUI.bin</a>	Mass production FW	2024.06.12	10.13 MB	1a6537bf7fdbfeeb365f05f63805a09b	<a href="#">Link</a>
<a href="#">OTD140_R_GPL_00.07.08.tar.gz</a>	SDK	2024.07.18	18.93 MB	ddc92889b1a99b711944e7c70b840cf5	

**Note:** packages for [Package Manager](#) are independent from firmware and can be downloaded in the [Package Downloads](#) page.

## FW checksums

Checksums for firmware files can be found [here](#).

## Changelog

### [OTD140\\_R\\_00.07.08](#) | 2024.07.18

- **New**
  - **Network**
    - DNS: added inherited server status to configuration page
    - HTTPS DNS Proxy: added new HTTPS DNS Proxy package to package manager
    - Mobile: added SIM card lock/unlock functionality in Mobile->Utilities page
    - Mobile: added SIM card PIN change functionality in Mobile->Utilities page
    - Mobile: added new Mobile->Limits page which shows information and allows to configure Data and SMS limits
    - Mobile: added DFOTA support for RG520N modems
    - Mobile: added nr-arfcn display to mobile status page
    - Mobile: added dfota support for devices with RG520N-EB modem
  - **Services**
    - Data to Server: added 'Lua script' data input
    - IPsec: added initial XFRM support
    - MQTT Modbus Gateway: added JSON message type format
    - OpenVPN: added DCO support
  - **System**

- API Core: added option to configure api session timeout
- Certificates: added "Let's encrypt" certificate generation
- PAM: added RADIUS external user support
- UI Core: added data analytics support
- Update Firmware: added warning message about device being temporarily unreachable on firmware update

- **Improvements**

- **Network**

- DNS: separated field "DNS forwardings" into two: one for simple server forwarding other for domain-specific
    - DNS: moved "DNS Forwardings", "Listen interfaces", "Exclude interfaces", "Local service only", options to advanced tab
    - Firewall: improved protocol field in all firewall pages by making that "All" value would be mutually exclusive with any other value
    - Mobile: improved IMS context initialization
    - Mobile: updated SMS memory management for multipart SMS
    - Mobile: added error message when attempting to enable the SIM switch without any criteria set
    - Mobile: added informative message in SIM switch page when Data/SMS limit criteria are enabled but the limits themselves are not set up
    - Mobile: moved operator list allowlist/blocklist selection to Network selection page
    - Mobile: refactored Scanned operators modal, added repeat scan button
    - Mobile: added ability to view previously scanned operators in Network selection and Operator lists pages
    - Mobile: added ability to edit operator list name and initiate scans for operators in Operator lists page
    - Mobile: updated operator code field list to include APNs from the APN database in Operator lists page
    - Mobile: split Mobile->General page into three pages: General, Connection and Utilities pages
    - Mobile: added mobile interface with highest priority APN configuration in Mobile->General page
    - Mobile: added icons with hints which show SIM card, operator, data connection statuses in Mobile->General page
    - Mobile: moved Mobile data limit section to a tab in WAN page
    - Mobile: added informative message in WAN page to indicate whether the connection will be made using APN from APN database, empty or custom APN
    - Mobile: improved logging of ping error messages
    - Mobile: added 5G SA/NSA mode selection
    - Mobile: improved modem updater to stop ping reboot service while update is in progress
    - Mobile: improved the handling of denied messages upon SIM switch
    - Mobile: added notification when a multi-IMSI SIM card is using Auto APN
    - Mobile: added validation to not allow passthrough and bridge mode when one already exists
    - Mobile: improved safeguards for modem services startup
    - Mobile: improved modem update status display
    - Mobile: added corrupted mobile statistics database restoration functionality
    - Mobile: improved setting of IPv4 and IPv6 types inside the modules
    - Mobile: improved provider name parsing for SLM750 modem
    - Multi WAN: improved interface status representation when using load balancing

- Network: added more options for "IPv6 assignment length" field
- VLAN: added ability to configure VLAN 0
- **Services**
  - Azure IoT Hub: added DPS symmetric key attestation support
  - Azure IoT Hub: added Direct Method support
  - Azure IoT Hub: added Plug and Play integration
  - Azure IoT Hub: added link to "Data to Server" page
  - Data to Server: added support for multiple filters
  - Data to Server: improved HTTP output hostname definition with automatic protocol specification in URL
  - Data to Server: improved MQTT input connection handling
  - DNP3 Client: added option to enable/disable service
  - Dynamic DNS: added Lookup hostnames support
  - GRE: increased Inbound and Outbound key limit to 4294967295
  - IPsec: added certificate warning message
  - Mobile Utilities: added interface option to sms\_utils cellular command
  - Mobile Utilities: improved error log message
  - Mobile Utilities: improved naming of I/O pins in initial I/O status rule
  - Mobile Utilities: sms utilities authentication brute force prevention
  - Modbus Server: added mobile last month and last week usage registers
  - Mosquitto: added large package size check for MQTT clients
  - MQTT Modbus Gateway: improved mosquitto reconnect time and service will try to recover few times before exiting
  - MQTT Publisher: improved MQTT connection handling
  - OPC UA Client: added security modes
  - OPC UA Server: added security modes
  - OPC UA Server: added service status display
  - OpenVPN: added support for decrypting private key when uploading a configuration file
  - OpenVPN: improved instance status state
  - OpenVPN: added options to specify an IP address pool for dynamic assignment to clients
  - SMPP: added brute-force prevention
  - SMPP: added TLS/SSL support
  - SMS Utilities: added security warning in "Authorization method" configuration
  - SNMP: changed interface module OID structure
  - SNMP: improved User-based Security Model (USM) brute force attack prevention measures
  - Stunnel: improved global instance settings dependencies
  - emailrelay: updated version to 2.4.1
  - OpenVPN: updated version to 2.6.9
  - stunnel: updated version to 5.72
- **System**
  - Access Control: added certificate key length warnings
  - Access Control: adjusted access control when all pages are blocked
  - Access Control: added certificate file download for CLI to work on all browsers
  - API Core: implemented functionality to include warning messages for vulnerable certificates
  - Boot: improved modem startup reliability
  - Package Manager: added multi package actions
  - Package Manager: added status filter

- Package Manager: moved package upload action to main page
- Package Manager: added links to installed packages pages
- Package Manager: refactored "Packages" page
- Package Manager: updated opkg repository link to use https
- RutOS: improved GPL example page to align with new software architecture
- Troubleshoot: refactored Modem debug section to display responses in single field, added clear button to remove received responses
- Troubleshoot: added support for multiple syslog servers
- UI Core: added additional message with IP address to loading screen for scenarios when redirect to different IP address happens
- UI Core: added toast message hiding when text is too long
- Update Firmware: added 'Firmware version' data in screen after firmware upload
- WebUI: added functionality to cancel loading screen if it takes 30 or more seconds
- WebUI: removed all ubus method calls from webui
- WebUI: improved language caching
- WebUI: added password generator for first login modal
- WebUI: added sticky position to side menu
- WebUI: added default password hint to login error message
- WebUI: added warning messages for low-security certificates
- Kernel: updated version to 5.15.159
- libexpat: updated version to 2.6.2
- SSL/TLS: updated version to 3.0.14
- vue: updated version to 3.4

- **Fix**

- **Network**

- Devices: fixed missing API devices status endpoint permission
- DHCP: fixed "DHCP option" allow empty input value
- DHCP: fixed IPv4 leases being not correctly shown when NTP synchronizes time
- DHCP: fixed DHCP error that occurred after changing the subnet of the LAN IP address in the setup wizard
- Dynamic routes: fixed duplicated external routes cards
- Firewall: fixed firewall zone validation when adding interfaces
- Mobile: fixed low signal reconnect being available on modems where it is not supported
- Mobile: fixed gsmctl -E output to return only json values
- Mobile: fixed Carrier Aggregation signal strength info
- Mobile: fixed wrong mobile data limit used data format for sms messages
- Mobile: fixed duplicate data connection event reporting
- Mobile: fixed an issue where low signal notifications were displayed without a SIM card
- Mobile: fixed modem serial number acquisition after modem reboot
- Mobile: fixed an issue when 4G-only network type selection may have resulted in a slower connection to the operator
- Mobile: fixed issue where USSD responses were returned in HEX format instead of text format for EC200A module
- Mobile: fixed issue where DHCP filter was not set correctly for RG501Q
- Mobile: fixed an issue where the wrong IP address was used after a DFOTA upgrade
- Network: fixed overriding MAC address for interfaces that are bridged
- Realtime Traffic: fixed mobile usage by week day translation by device language
- SQM: fixed missing PPP mobile device selection in SQM configuration

- **Services**

- BACnet: fixed incorrect BACnet IP port used for sending responses
- BGP: fixed route map sequence going out of range
- BGP: fixed listen range field allowing multiple entries
- Call Utilities: fixed table header switch to be disabled if no rules were created
- DLMS: fixed DLMS test response format
- DLMS: fixed COSEM group validation
- DLMS: fixed API POST error for /dlms/devices/config endpoint
- DLMS: fixed serial connection not working after reboot
- DNP3 Client: fixed to allow reading objects past 255 index
- DNP3 Client: fixed incorrect hints
- DNP3 Outstation: fixed serial outstation starting issues
- IPsec: fixed connectivity issues when using WAN failover
- IPsec: fixed the instance status when the local firewall option is disabled
- Ledman: fixed issue when after some time network type LED starts blinking
- Modbus Client: fixed test request option validation
- Modbus Client: fixed alarm output action display values
- Modbus Client: fixed incorrect period hint
- Modbus Server: fixed APN register not clearing APN
- Modbus Server: fixed 148 and 164 modbus registers
- Modbus Server: fixed incorrect hints
- OPC UA Server: fixed not starting while modem is down
- OpenVPN: fixed displaying imported files from device
- OpenVPN: fixed the private key decryption for cases when a password is used
- OpenVPN: fixed data cipher migration
- Overview: fixed issue when devices without WiFi send additional request without data
- SMPP: fixed username bypass problem
- SMPP: fixed password validation
- SMS Gateway: fixed SMS to Email recipient formatting according to RFC5322
- SNMP: fixed GSM mSignal OID value type
- SNMP: fixed GSM module memory leaks
- SSTP: fixed functionality when the default route option is not enabled
- Web Filter: fixed whitelist not working for some hosts when using IPv6

- **System**

- Administration: fixed repeated validation on cleared inputs and added validation when new password matches the old one
- API Core: fixed API method validation during upload action
- API Core: fixed error messages for POST method
- API Core: fixed option list validation
- Boot: fixed factory settings restore (firstboot) not deleting hidden files
- Events Log: fixed refresh button in event log table
- IP Block: fixed adding MAC addresses back to whitelist when unblocking all of them
- Recipients: made phone number field required
- Setup Wizard: fixed lan ip step not changing ip address
- Troubleshoot: fixed system log and kernel log buttons to be enabled with read only rights
- Update Firmware: fixed misleading "Firmware version" status of "N/A" to "FOTA service is disabled" when FOTA is disabled
- Update Firmware: fixed issue when infinite spinner appears after updating device

firmware from server without having internet connection

- **CVE Patches**
    - Patched CVE-2023-52425
    - Patched CVE-2023-52530
    - Patched CVE-2024-25629
    - Patched CVE-2024-28757
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## [OTD140\\_R\\_00.07.07.3](#) | 2024.06.25

- **Fix**
    - **Network**
      - WebUI: fixed port advertisement change
    - **System**
      - FOTA: fixed config when upgrading from older firmware with keep settings
  - **CVE Patches**
    - CVE-2024-31950
    - CVE-2024-31951
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## [OTD140\\_R\\_00.07.07.2](#) | 2024.06.12

- **Improvements**
    - **Network**
      - Zerotier: added backup WAN interface blacklisting if WAN failover is enabled
      - Mobile: improved communication stability with eSIM
    - **Services**
      - SNMP: added bruteforce attack prevention when using SNMP v3 user
      - L2TP: improved reconnect attempt logic
    - **System**
      - SSH: removed weak SSH algorithms
      - Telnet: moved to Package Manager
  - **Fix**
    - **Network**
      - BGP: fixed instance migration issues
      - Mobile: fixed forced APN configuration
    - **Services**
      - DMVPN: fixed duplicate NHRP map entries creation
      - OpenVPN: added fixes for the insecure tls-cert-profile option usage
    - **System**
      - IP Block: fixed blocking of UDP traffic
  - **CVE Patches**
    - CVE-2024-31948
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## [OTD140\\_R\\_00.07.07.1](#) | 2024.05.03

- **New**
  - **Network**

- WebUI: added ESM/EMM message notifications
- WebUI: added internet status tracking configuration and overview widget
- LAN: added a new IPv6 LAN status page
- Static Leases: added a new IPv6 Static Leases page
- WebUI: added custom domain name resolve option in “DNS” configuration page
- Auto APN: added “uno.au-net.ne.jp” APN for “KDDI” operator
- Auto APN: added 'eprivate010.tisparkle.com' APN for “Sparkle” operator
- QoS: added mobile interface select option
- Mobile: improved connection establish time for uqmi protocol
- Failover: added additional connection flush options
- VRF: added initial Virtual Routing and Forwarding support
- **Services**
  - DLMS Client: added persistent TCP connections
  - Events Reporting: added unexpected shutdown event
  - Modbus Client: added 64bit data types
  - IPerf3: added iPerf3 to Package Manager
  - TR-069: added PCI, LAC, TAC, EARFCN and Neighbour cells data to Device.MobileInfo node
  - Hotspot: added domain and subdomain options for external landing page
  - Ping reboot: added capability to restart PoE port
- **System**
  - WebUI: added the ability to generate random passwords for password input fields
  - WebUI: added reset to “Factory defaults” option
  - System: changed firmware certificate verification tool
  - IP Block: added time-based login attempt blocking
  - WebUI: added firmware update notification support
  - PAM: added the ability to set port for TACACS+
  - Logging: added multiple remote syslog servers support
- **Improvements**
  - **Network**
    - Static Leases: added possibility to use MAC with wildcard
    - WebUI: added ability to disable modem update notifications
    - Topology: changed network devices scanning application
    - WebUI: improved design of Status - LAN page
    - DHCP: simplified DHCP configurations in other pages and moved full DHCP configuration to a separate page
    - DHCP: removed default disabled server configuration for WAN interface
    - WebUI: simplified data entry of DNS forwardings by separating hostname and IP address fields
    - BGP: added Virtual Routing and Forwarding (VRF) support
    - BGP: added multiple BGP instance support
    - WebUI: adjusted responsive design breakpoints
    - Dnsmasq: updated dnsmasq to version 2.89
    - WebUI: added additional field for warning threshold to allow entering value as percentage in Mobile Data Limit section
    - Mobile: improved mobile services stability when SIM card is lost during SMS sending
    - Mobile: updated bridge/passthrough mode logic to flush ARP and add static ARP entry if MAC is specified
    - Mobile: improved SIM switch logging and protection on failure to acquire data
    - WebUI: added partial data loading to APN database page

- Mobile: improved SMS sending timeouts during network issues
- Mobile: improved connection handling when data limit is reached
- Mobile: added metric to default gateway when using passthrough mode
- WebUI: added validation for 2 same APNs
- WebUI: updated Band selection field to show duplex modes in Mobile General page
- **Services**
  - Wireguard: added option to bind tunnel to a specific interface
  - OPC UA Client: added limits (10 servers, 20 groups, 50 nodes per server, 50 values per group)
  - DLMS Client: increased maximum count of connection sections to 30
  - DLMS Client: added short name referencing
  - SNMP: set strict default community access when IPv6 address is used
  - SNMP: improved sysName OID to set device's hostname
  - OpenVPN: added the bridge option for selecting the network device to be bridged with
  - OpenVPN: added possibility to create more than one TAP client
  - Auto Reply: added available SMS message parameters to "Message text" input
  - Modbus Client: allow using diacritics in SMS alarms
  - Hotspot: moved MAC blocking option from Access Control to Hotspot page
  - WebUI: added MAC authentication support when using RADIUS authentication mode
  - WebUI: moved licenses to footer
  - SSTP: updated package version to 1.0.19
  - Mosquitto: updated package version to 2.0.17
- **System**
  - WebUI: added more strict password requirements for restoring backup
  - SMTP: added option to either not verify SMTP server or upload SMTP server's CA file to verify authenticity
  - WebUI: Added the ability to choose the ROOT CA when using certificates from the device
  - WebUI: unified time format to ISO8601 across the entire WebUI
  - WebUI: added ability to choose imported certificate and key as 'Server certificate' and 'Server key' in 'Access Control'
  - WebUI: added 'Hosts' and 'IP Addresses' options for 'Simple' certificate generation and certificate signing
  - WebUI: changed firmware update option to server as a default option
  - WebUI: improved first login password change logic
  - Certificates: updated Root CA certificates
  - GPL: added offline package preparation command for GPL builds
  - Speedtest: added multiple connections support to improve accuracy
  - Kernel: updated to version 5.15.149
  - Libcap: updated package version to 2.69
- **Fix**
  - **Network**
    - Topology: fixed showing interfaces with assigned VLAN
    - WebUI: fixed static routing creation for GRE instance
    - Network: fixed DHCPv4 relay mode enabling
    - Mobile: fixed PIN code set after modem restart
    - Mobile: fixed an issue where using SIM change command on one SIM slot modems would reset connection

- Mobile: fixed an issue where message storage would not be checked correctly
- Mobile: fixed temperature value sometimes returning 0
- Mobile: fixed denied roaming flag set
- SIM Switch: fixed an issue when low "Check interval" was causing connection to fail
- SIM Idle Protection: fixed problem when the SIM slot remained unchanged
- Mobile: fixed an issue where SIM switch would fail when switching to PUK blocked SIM
- Mobile: fixed an issue where sim switch would be executed twice immediately causing sim to not be switched
- Mobile: fixed SIM PIN saving for non primary SIM cards
- Failover: fixed Failover missing active rules when using multiple source and destination IP addresses
- Failover: fixed an issue where failover would not function correctly while using a mobile interface
- WebUI: fixed network and failover interface metric sorting synchronization issue
- WebUI: fixed failover rule policy save issue with newly added WAN interface
- Interfaces: fixed failover value for new WAN being taken from WAN that was just deleted
- WebUI: added validation to prevent default VLAN deletion
- **Services**
  - Modbus Client: allow using negative floating point values in requests
  - Azure IoT Hub: fixed Data to Server minor WebUI dependency bugs
  - Data to Server: fixed DLMS data formatting
  - Data to Server: fixed Network link state data display
  - DLMS Client: fixed segfault while reading profile generic COSEM object
  - DLMS Client: fixed profile generic entries reading
  - DLMS Client: fixed application memory allocation issues
  - SSTP: fixed route adding when default route is enabled
  - SNMP: fixed VLAN OID naming
  - OpenVPN: added fixes for instance status tracking functionality
  - OpenVPN: resolved uptime counting issues
  - PPTP: fixed PPTP instance deletion problem
  - Hotspot: fixed password validation for locally created users and signed-up users
  - Hotspot: fixed session invalidation after deleting registered user
  - Hotspot: fixed SMS OTP password reuse
  - Hotspot: fixed firewall rule creation
  - PPTP: fixed problem related with routes when failover is enabled
  - Modbus Client: fixed issue where service freezes when SMS alarm is sent
  - Azure IoT Hub: fixed 'contentType' telemetry message parameter
  - UPnP: updated package version to 2.3.4
- **System**
  - NTP Client: fixed 'Count of time synchronizations' execution when synchronization to mobile operator is chosen
  - Package Manager: fixed spinner message when restarting network after package upload or download
  - Package Manager: fixed supported devices check when installing a package from server
  - WebUI: fixed language install from uploaded package after upgrade with keep settings
  - WebUI: fixed an issue when a user was not logged out after changing profiles

- Telnet: fixed segmentation fault during concurrent connections
  - CLI: fixed enter key issue on mobile chromium based browsers
  - System Users: fixed SSH session close after deleting user or disabling SSH access
  - Profiles: fixed profile migration with installed packages
  - Boot: now powering modem during preinit after firstboot
  - WebUI: fixed Hotspot log page table search functionality
  - Speedtest: fix missing download speed on some servers
  - PAM: updated libpam to version 1.6.0
- **CVE Patches**
    - CVE-2022-4603
    - CVE-2022-23308
    - CVE 2022-45061
    - CVE-2023-0466
    - CVE-2023-6129
    - CVE-2023-7042
    - CVE 2023-24329
    - CVE 2023-27043
    - CVE-2023-42366
    - CVE-2023-46218
    - CVE-2023-46219
    - CVE-2023-46752
    - CVE-2023-46753
    - CVE-2023-48795
    - CVE-2024-2397
    - CVE-2024-25062
    - CVE-2024-27913
    - CVE-2024-22365
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## [OTD140\\_R\\_00.07.06.10](#) | 2024.04.04

- **Fix**
    - **System**
      - Ledman: fixed memory leak
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## OTD140\_R\_00.07.06.8 | 2024.03.25

Firmware **R\_00.07.06.8** was removed due to an issue with inefficient memory allocation for LED control.

- **New**
  - **WebUI**
    - Added eSIM support
- **Improvements**
  - **Services**
    - IPsec: disabled libgmp in favor of openssl
    - IPsec: updated Strongswan to 5.9.6
- **Fix**
  - **Services**

- IPsec: increased charon load timeout
  - IPsec: fixed loading of large private keys
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## [OTD140\\_R\\_00.07.06.6](#) | 2024.03.04

- **New**
    - **Services**
      - Added domain and subdomain options for external landing page in Hotspot
  - **Improvements**
    - **System**
      - Minified \*.svg WebUI files to save space on the device
      - Removed unused easy-rsa package to increase free space
  - **Fix**
    - **Network**
      - Fixed mobile daily data usage representation
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## [OTD140\\_R\\_00.07.06.5](#) | 2024.02.21

- **New**
    - **Network**
      - Added support for multi line USSD
    - **WebUI**
      - Added PoE configuration support in Network->Ports->Ports Settings
  - **Improvements**
    - **Network**
      - Improved DMZ to use its source zone on port forwards creation
    - **System**
      - Updated netifd version to 2024-01-04
      - Updated PPP package version to 2.4.9
      - Updated E2fsprogs package version to 1.47.0
      - Updated Musl package version to 1.2.4
  - **Fix**
    - **WebUI**
      - Fixed action descriptions in the traffic rules table
      - fixed BACnet allow remote access functionality
      - Added 'Ports Settings' configuration page
    - **System**
      - Fixed WiFi LED indication when access point is turned off
      - Fixed year 2038 problem with time counter overflow
- 

## [OTD140\\_R\\_00.07.06.3](#) | 2024.01.17

- **Improvements**
  - **Services**
    - Increased DLMS Client connection timeout for TCP sockets
- **Fix**

- **Services**
    - Fixed DLMS Client memory leak with profile generic COSEM class
  - **WebUI**
    - Fixed Events Log sorting and search features
  - **System**
    - Patched CVE-2024-0193 vulnerability
    - Patched CVE-2023-51779 vulnerability
    - Updated OpenSSH to 9.6p1 version, fixed CVE-2023-51385 and CVE-2023-51384
    - Fixed profile migrations, added error handling when trying to change profile while it is still applying
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## **[OTD140\\_R\\_00.07.06.1](#) | 2024.01.04**

- **New**
  - Initial firmware release