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Digital Product Passport (DPP) Extension

PDF Manual

MODULE

dpp

LAST UPDATED

2026-03-29

Table of Contents

Digital Product Passport (DPP) Extension · dpp

- [Overview](#)
- [Digital Product Passport \(DPP\) Extension](#)
- [Getting Started](#)
 - [Installation](#)
 - [Configuration](#)
 - [First Passport](#)
- [Features](#)
 - [Completeness Score](#)
 - [GS1 Digital Link](#)
 - [Public View and QR Codes](#)
 - [Templates and Schemas](#)
- [Reference](#)
 - [API and JSON-LD](#)
- [Troubleshooting](#)
 - [Common Issues](#)

Digital Product Passport (DPP) Extension

Digital Product Passport (DPP) Extension · /dpp

Create EU-ready Digital Product Passports in Magento 2 with GS1 Digital Link URLs, JSON-LD output, and ready-made templates for regulated product categories.

Overview

The **MageB2B DPP** module helps you prepare for EU ESPR requirements by publishing structured product passports. It supports model, batch, and item-level passports, provides a public view page, and exposes machine-readable data for external systems.

Key Features

- **ESPR readiness** with configurable templates and publish controls
- **Template library** for Generic, Textile (CIRPASS), and Battery passports
- **GS1 Digital Link URLs** for GTIN-based standards
- **JSON-LD + REST + GraphQL** output for interoperability
- **Completeness score** to control publishing
- **QR codes and public view** for customer access
- **Published-only public exposure** (storefront + API)

Where To Find It In Magento

- **Configuration:** Stores > Configuration > MageB2B > Digital Product Passport
- **Passports:** Catalog > Digital Product Passports
- **Templates:** Catalog > Digital Product Passports > Templates
- **Quality Report:** Catalog > Digital Product Passports > DPP Quality Report

Quick Start

1. [Installation](#)
2. [Configuration](#)
3. [Create your first passport](#)
4. [GS1 Digital Link](#)
5. [JSON-LD and API access](#)

Documentation Sections

Getting Started

- [Installation](#)
- [Configuration](#)
- [First Passport](#)

Features

- [Templates and Schemas](#)
- [GS1 Digital Link](#)

- [Completeness Score](#)
- [Public View and QR Codes](#)

Reference

- [API and JSON-LD](#)

Troubleshooting

- [Common Issues](#)

Installation

Digital Product Passport (DPP) Extension · /dpp/getting-started/installation

This guide shows how to install the Digital Product Passport (DPP) extension for Magento 2.

Prerequisites

- Magento 2.4.x
- PHP 8.1+
- Composer access to the MageB2B repository
- Backup of your Magento installation

Installation Steps

1. Add Repository Access

Configure Composer auth for the MageB2B repository:

```
composer config bearer.repo.softwaresilo.io <token>
composer config repositories.softwaresilo composer
https://repo.softwaresilo.io/
```

2. Require the Package

```
composer config bearer.repo.softwaresilo.io <token>
composer config repositories.softwaresilo composer
https://repo.softwaresilo.io/
composer require mageb2b/dpp:*
```

3. Enable the Module

```
php bin/magento module:enable MageB2B_Dpp
```

4. Run Setup Upgrade

```
php bin/magento setup:upgrade
```

5. Compile and Deploy

```
php bin/magento setup:di:compile
php bin/magento setup:static-content:deploy
```

6. Clear Cache

```
php bin/magento cache:flush
```

Verify Installation

```
php bin/magento module:status MageB2B_Dpp
```

If the module appears in the enabled list, installation is complete.

Next Step

Continue with [Configuration](#).

Configuration

Digital Product Passport (DPP) Extension · /dpp/getting-started/configuration

Configure the DPP module in Magento admin to control publishing, templates, and GS1 Digital Link behavior.

Where To Configure

Go to: Stores > Configuration > MageB2B > Digital Product Passport

General Settings

- **Enable Digital Product Passports**
- **Minimum Completeness Score for Green Status** (0-100)

Technical behavior:

- The threshold is used for quality indication/reporting.
- It is also used when status is not explicitly set (automatic status derivation to draft or published).
- Public/API visibility still depends on passport status being published.

Default values after installation:

- DPP module is enabled.
- Minimum completeness score defaults to 70.

GS1 Digital Link

- **Enable GS1 Digital Link URLs**
- Optional **resolver domain** for custom link routing

Technical behavior:

- GS1 routing is active only when both DPP and GS1 are enabled in configuration.
- GS1 storefront routes are matched from paths starting with /01/.

Attribute Mapping

Map Magento product attributes to DPP fields (examples):

- GTIN
- Country of origin
- HS/CN code
- Manufacturer

These mappings can be used to prefill passport data and improve completeness scoring. If GTIN mapping is missing, QR generation can still fall back to the standard DPP view URL.

Scope Notes

- Most DPP settings are available on default/website/store scope.
- Attribute mapping fields are configured on default/website scope.
- Minimum Completeness Score for Green Status is default/website scope.

Recommended Setup Order

1. Enable the module
2. Configure GS1 Digital Link (if used)
3. Map key attributes (GTIN, origin, HS/CN)
4. Set your completeness threshold
5. Verify at least one active template is available for product assignment

Next Step

Create your first passport: [First Passport](#)

First Passport

Digital Product Passport (DPP) Extension · /dpp/getting-started/first-passport

This walkthrough creates a basic Digital Product Passport for a product SKU.

Step 1: Verify Template Availability

Navigate to **Catalog > Digital Product Passports > Templates** and ensure at least one template is active. The module ships with:

- Generic DPP Template (ESPR)
- Textile DPP Template (ESPR/CIRPASS)
- Battery Passport (EU Battery Regulation)

You can also create your own template code if needed.

Step 2: Open a Product

Edit a product in the Magento catalog and locate the **Digital Product Passport** section.

Step 3: Fill Passport Data

Provide the required fields for the selected template, for example:

- Template code
- Status (Draft, Active, Published, Archived)
- ESPR category
- HS/CN code
- Country of origin
- DPP payload (JSON)

Status behavior:

- If you set a status manually (Draft, Active, Published, Archived), that value is used.
- If no status is selected, the module derives status from completeness score + configured threshold.

Step 4: Publish

Set status to **Published** when the data is ready for public/API output.

Important:

- Published passports must contain valid JSON payload data.
- Payload must match the template schema requirements.
- If schema/payload validation fails, save/publish will fail.

Step 5: Verify the Public View

Open the passport view page to confirm the output and QR code:

- Standard view: `/dpp/index/view/id/{passport_id}`
- GS1 Digital Link (if enabled): `/01/{GTIN}` (optional batch and serial qualifiers)

Next Step

Learn about [GS1 Digital Link](#) or [JSON-LD output](#).

Completeness Score

Digital Product Passport (DPP) Extension · /dpp/features/completeness-score

The completeness score is a quality metric (0 - 100) for passport completeness.

How It Works

The system calculates a score based on fields such as:

- Template selection (non-default template)
- ESPR category
- HS/CN code
- Country of origin
- DPP payload data
- Batch ID (if applicable)
- Serial number (if applicable)

The score is rounded to an integer (0 - 100).

Configuration

Set the minimum score in:

Stores > Configuration > MageB2B > Digital Product Passport

Technical Behavior

- The configured threshold is used for the quality indicator/report.
- Passports below threshold appear in Catalog > Digital Product Passports > DPP Quality Report.
- The score threshold is not a standalone hard publish lock when status is set explicitly.
- Public/API visibility still requires status published.

GS1 Digital Link

Digital Product Passport (DPP) Extension · [/dpp/features/gs1-digital-link](#)

GS1 Digital Link transforms product identifiers into standardized URLs. This makes your passports interoperable across supply chains.

URL Structure

Examples:

- Model level: `/01/04006381333931`
- Batch level: `/01/04006381333931/10/BATCH2024`
- Item level: `/01/04006381333931/21/SN12345`

Enable in Configuration

1. Go to `Stores > Configuration > MageB2B > Digital Product Passport`
2. Enable **GS1 Digital Link URLs**
3. (Optional) Set a **resolver domain**
4. Clear cache

Notes

- GTIN is required for GS1 URLs
- Batch and serial are optional qualifiers
- Storefront GS1 routing expects the path to start with `/01/`
- GS1 routing only works when DPP and GS1 settings are enabled in configuration

Public View and QR Codes

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Each published passport is available as a public view page, with optional QR codes for easy access.

Public View

The standard view URL uses the passport ID:

- `/dpp/index/view/id/{passport_id}`

If GS1 Digital Link is enabled, GTIN-based URLs will also resolve to the same passport.

Only published passports are publicly accessible.

JSON-LD On View Route

The same view route can return JSON-LD when the request asks for JSON:

- Send Accept: `application/ld+json` (or `application/json`)
- Response is limited to published passports
- Not found/non-published returns `404`

QR Codes

QR codes can be displayed on the product page to link directly to the passport view. This helps customers scan and access the passport quickly.

QR image endpoint:

- `/dpp/index/qr?id={passport_id}`

If the passport is not published (or not found), the QR endpoint returns `404`.

Templates and Schemas

Digital Product Passport (DPP) Extension · /dpp/features/templates

DPP templates define the required fields and schema for each passport type.

Default Templates

The extension ships with:

- **Generic DPP Template (ESPR)**
- **Textile DPP Template (CIRPASS)**
- **Battery Passport (DIN DKE SPEC 99100:2025-02)**

Manage Templates

Go to: Catalog > Digital Product Passports > Templates

From there you can:

- Create new templates
- Set template code and name
- Enable/disable templates
- Define scope and structure JSON

Schema Files

Default templates are shipped with schema definitions and are validated on publish.

Custom Template Limitation (Important)

In the current admin template form, you can manage template metadata and structure JSON, but not schema definition content directly.

Technical impact:

- Publishing requires schema validation.
- If a custom template has no schema definition, publish attempts fail.
- Draft/active work-in-progress usage is still possible, but public release requires a valid schema.

For production-ready custom template schemas, involve your implementation/development team.

API and JSON-LD

Digital Product Passport (DPP) Extension · /dpp/reference/api

The DPP module exposes REST and GraphQL endpoints for machine-readable passports.

REST API

Standard JSON:

```
GET /rest/V1/dpp/passport/{sku}
```

JSON-LD with semantic context:

```
GET /rest/V1/dpp/passport/{sku}/jsonld
```

Listing with search criteria:

```
GET /rest/V1/dpp/passports?searchCriteria[pageSize]=10
```

Optional store context can be passed as query parameter where supported (for example ?storeId=1).

GraphQL

Example query:

```
query {
  dppPassportBySku(sku: "SKU-123") {
    passport_id
    status
    template_code
    completeness_score
  }
}
```

GraphQL query:

- `dppPassportBySku(sku: String!, storeId: Int): DppPassport`

Notes

- REST/GraphQL output is limited to `published` passports
- JSON-LD output includes `@context` for interoperability
- Passport listing (`/rest/V1/dpp/passports`) is also restricted to `published` records

Common Issues

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Passport Not Published

- Check the **completeness score** in configuration
- Ensure required fields are filled for the selected template
- Verify DPP payload JSON is valid
- Verify payload matches template schema requirements when using **Published** status

GS1 URL Not Resolving

- Confirm GTIN is mapped and filled
- Ensure GS1 Digital Link is enabled
- Ensure the URL path starts with /01/
- Clear cache after configuration changes

JSON-LD Endpoint Returns Error

- The passport must be **Published**
- Validate the DPP payload JSON
- Verify the SKU/store context resolves to an existing published passport

Publish Fails For Custom Template

- Published status requires schema validation
- Custom templates without schema definition cannot be published
- Use a template with valid schema definition or involve your development team to provide one