Product Price Formula

extension for Magento

User Guide

version 1.0

Contents

1. Introduction

The document is a User Guide for extension **Product Price Formula** created for Magento websites. It describes the extension functionality and provides some tips for a quick start.

The extension official page - https://www.itoris.com/magento-product-price-formula.html

The purpose of the Product Price Formula extension for Magento is to provide more flexibility with the product price calculation. The admin can use any custom mathematical formula to calculate the final product price. The input to formula is custom options the customer chooses on the form or the product attributes defined by the admin. The price formula can be of any complexity, have math functions, constants and conditional branching.

The extension will be useful for those who need a custom method of price calculation not supported by Magento, like:

- Price calculation based on the object size or dimensions
- Complex tier price calculation based on quantity and the custom options selected
- Single setup fees for a bulk purchase not dependent on the quantity ordered
- Additional fees that depend on multiple custom options or product attributes together

2. Installation

2.1. System Requirements

The extension works under Magento from 1.4.x and higher.
The extension works with Apache 1.3.x and higher, PHP 5 or higher, Linux or IIS.

2.2. Installation

Download the extension installation zip package from your account at https://www.itoris.com/ and unpack it to the root of your Magento site by (S)FTP. Then flush cache in your Magento backend following **System > Cache Management**.

2.3. License

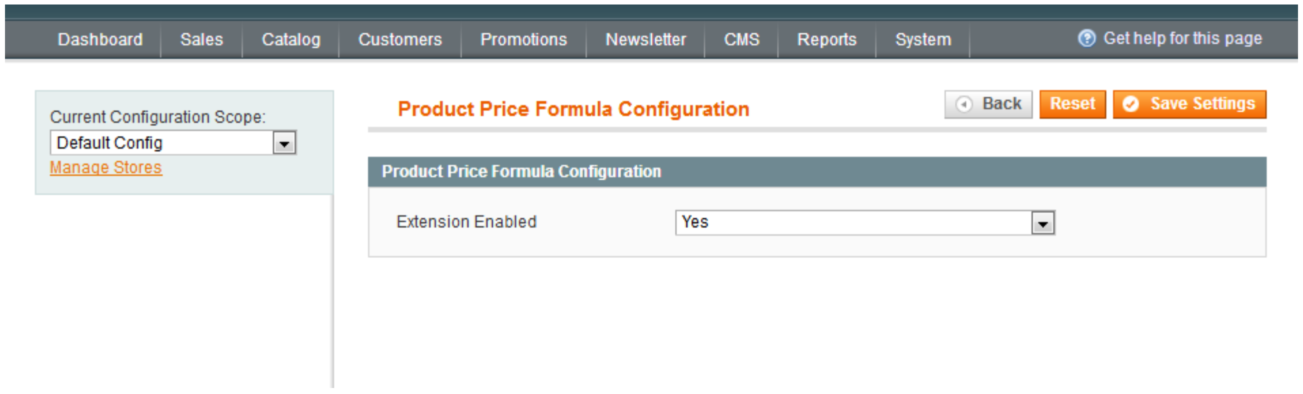
Please find the license agreement at https://www.itoris.com/magento-extensions-license.html

3. How to Use

3.1. Extension Activation

The price formula configuration is available following **System > Itoris Extension > Product Price Formula**.

Extension Enabled – enables or disabled the extension functionality.

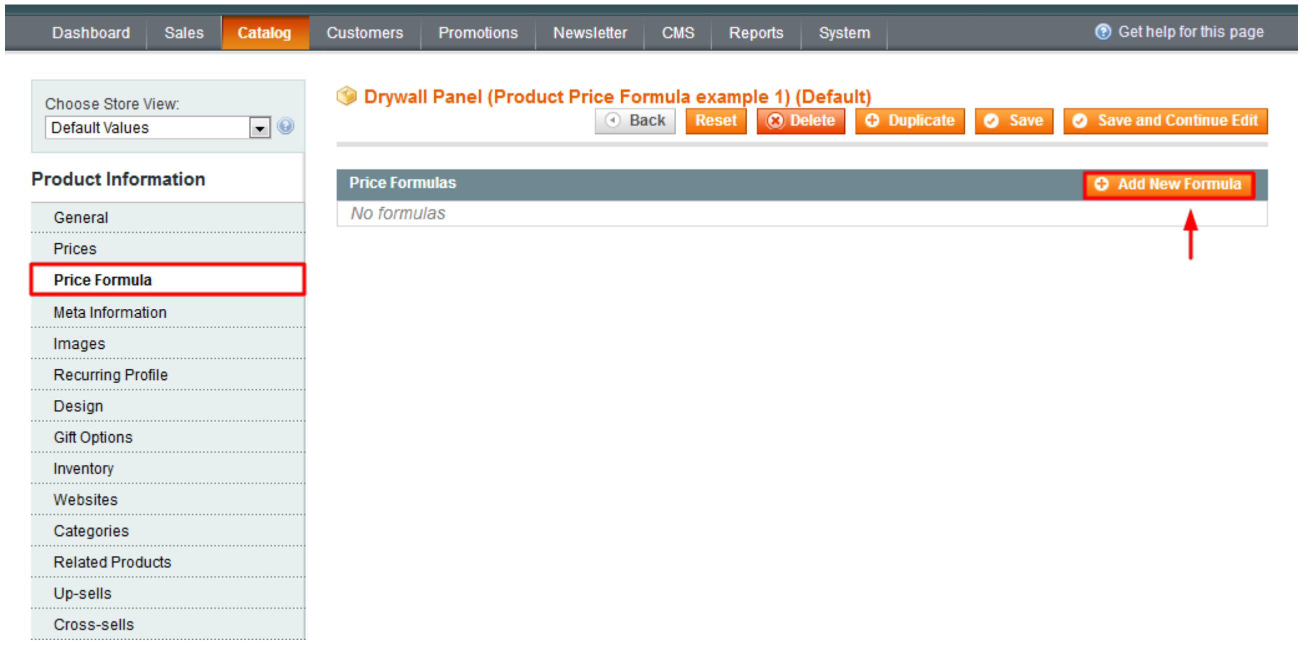


Extension Enabled: Yes

3.2. Create New Formula

The extension allows the admin to create and edit formulas for each product following **Catalog > Manage Products > {select a product} > Price Formula**.

The "**Add New Formula**" button allows creating a new formula.



No formulas

3.3. Formula Editor Overview

The following settings are available:

Add New Formula - the product can have multiple accumulative formulas executed by chain. The admin can click this button to add another formula to the product. The correct order in field “**Position**” should be also specified.

Delete Formula –removes the formula.

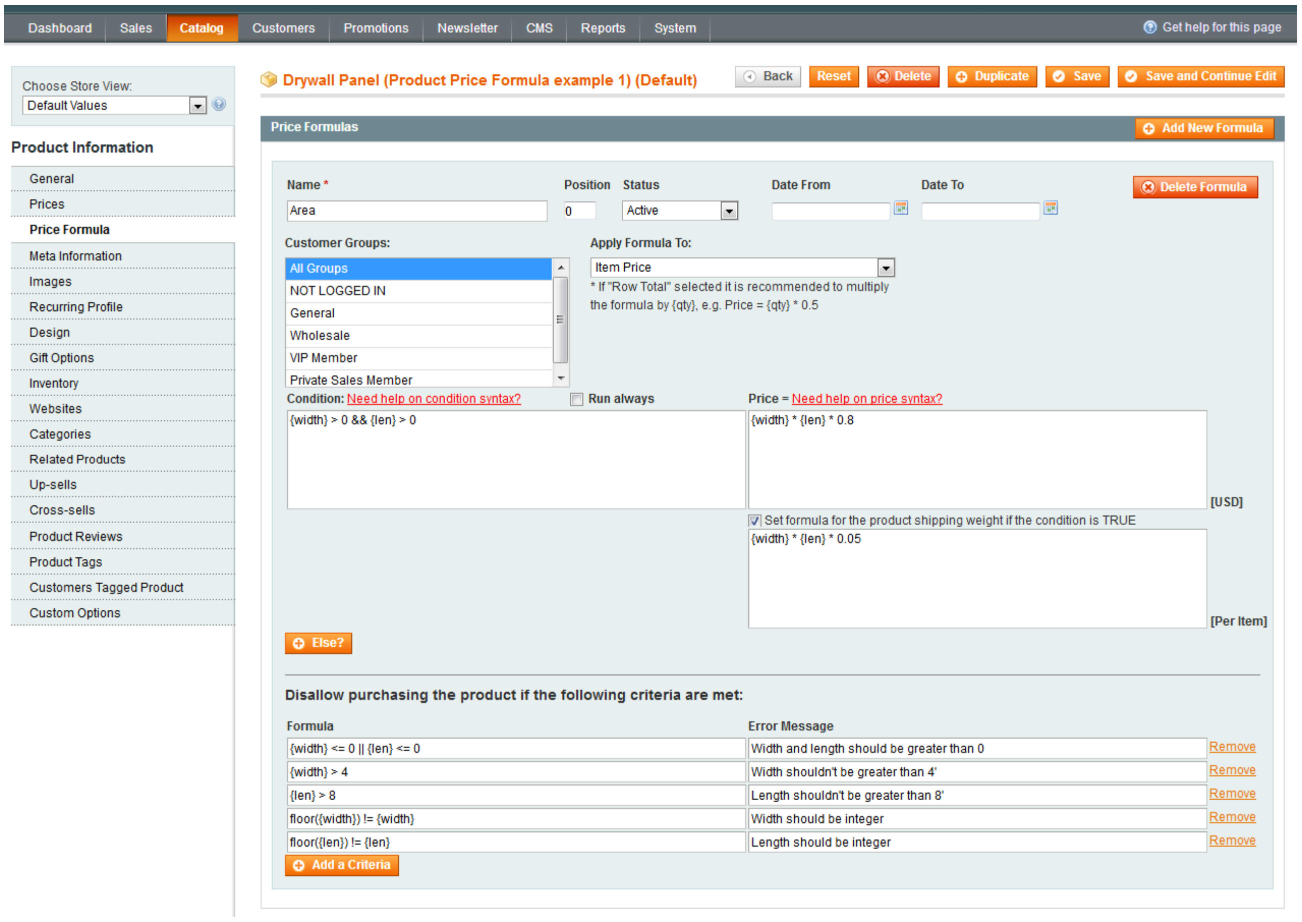
Name –allows entering the formula title here. The entered name is not visible on the Frontend.

Position – allows setting the correct order of execution.

Status – enables or disables the formula.

Date From - Date To – allows specifying the "from-to" dates when the formula should be active.

Customer Group – allows choosing customer groups the formula is active for. All Groups is set by default.



Choose Store View: Default Values

Drywall Panel (Product Price Formula example 1) (Default)

Price Formulas

Name *	Position	Status	Date From	Date To
Area	0	Active		

Customer Groups: All Groups, NOT LOGGED IN, General, Wholesale, VIP Member, Private Sales Member

Apply Formula To: Item Price
* If "Row Total" selected it is recommended to multiply the formula by {qty}, e.g. Price = {qty} * 0.5

Condition: Need help on condition syntax?
{width} > 0 && {len} > 0

Run always

Price = Need help on price syntax?
{width} * {len} * 0.8 [USD]

Set formula for the product shipping weight if the condition is TRUE
{width} * {len} * 0.05 [Per Item]

Disallow purchasing the product if the following criteria are met:

Formula	Error Message	
{width} <= 0 || {len} <= 0	Width and length should be greater than 0	Remove
{width} > 4	Width shouldn't be greater than 4'	Remove
{len} > 8	Length shouldn't be greater than 8'	Remove
floor({width}) != {width}	Width should be integer	Remove
floor({len}) != {len}	Length should be integer	Remove

Apply Formula To - allows setting what the calculated value should be applied to. If "**Item Price**" is selected, the formula result will be applied to the item price. The row total will be calculated as the item price multiplied by the quantity. If "**Row Total**" is selected, the formula result will be applied to the row total not depending on the quantity selected. The item price will be calculated as the division of the calculated row total and the quantity.

Show Product Price on Frontend as - visible if "**Row Total**" is selected in the previous dropdown. If "**Default**" is selected, the customer will see the "**price per item**" on the product view on the Frontend. If "**Multiplied by the QTY**" is selected, the customer will see the row total value. It's useful when the admin calculates the package price based on multiple conditions to show the final price to the customer before adding the product to cart.

Condition - defines when the formula should be executed, for example:
`{width} > 0 && {len} > 0` - making sure the width and the length entered is positive
`{print_label} && {txt.length} >= 15 || {print_default}` - if the customer has selected to print a label and (&&) entered 15 or more characters of text, or (||) the default label selected.

Need help on condition syntax? - shows tips on the condition syntax.

Run always - the checkbox will disable the Condition textarea, meaning the formula will always run without conditions. Also there won't be ability to fork the condition using button "**Else**".

Price= - allows entering a formula here. It should result to a float value. For example:
`{width} * {len} * 0.8` - calculates the area of a rectangle and multiply it by the rate
`PI * sqrt({radius}) * 0.8` - calculates the area of a circle and multiply it by the rate

Need help on price syntax? - shows tips on the price syntax.

Set formula for the product shipping weight if the condition is TRUE – if the admin wants to override the product shipping weight. A text area will appear where the admin can enter a custom formula for the product weight.

Else? - using this button the admin can fork the condition and add another formula. A new set of fields will appear for **Condition**, **Formula**, and **Weight**. For example, custom tier price for quantities up to 10, 20, and 30 and if length is 20 or greater:

```
if ({qty} < 10 && {len} >= 20) Price = 20;
else if ({qty} < 20 && {len} >= 20) Price = 18;
else if ({qty} < 30 && {len} >= 20) Price = 16;
etc.
```

Disallow purchasing the product if the following criteria are met: Formula and error message - custom validation criteria. The admin can enter the formula and the error message. Or create multiple validation messages. Examples:

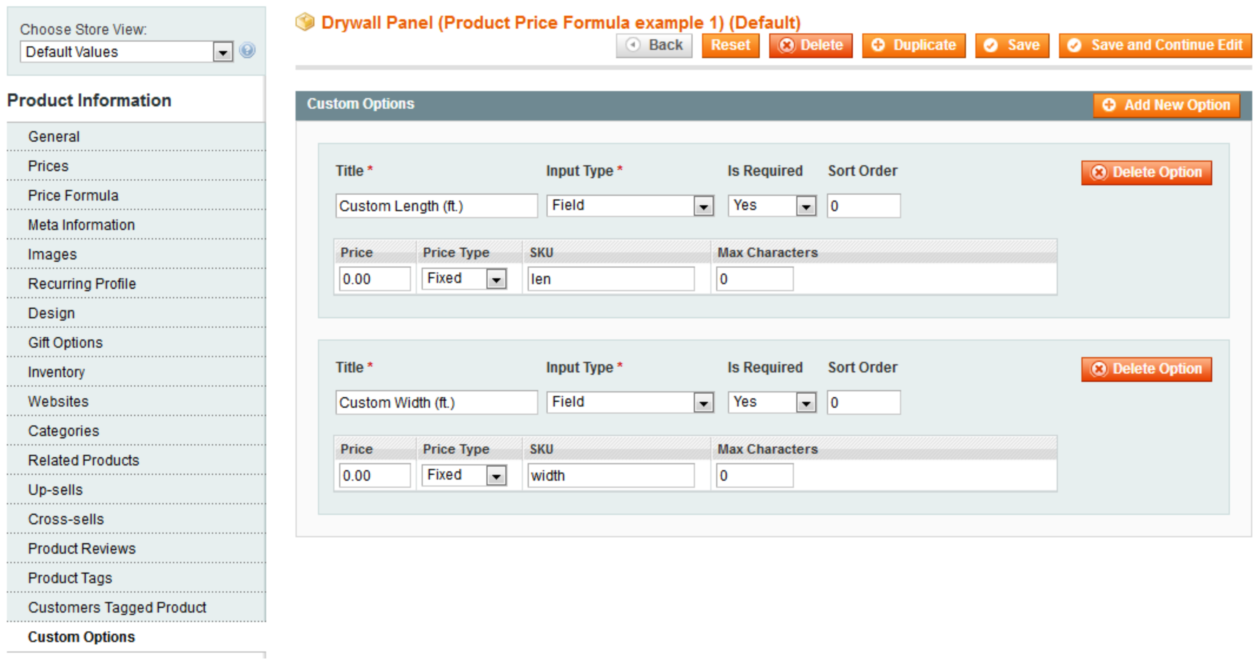
```
if ({width} <= 0 || {len} <= 0) Error = "Width and length should be greater than 0"
if (floor({width}) != {width}) Error = "Width should be integer"
etc.
```

3.4. Input

The admin can pass data into the formula via dynamic variables. Variables are enclosed into curly braces: {variable}. All variables currently supported by the extension are listed in the Appendix A.

3.4.1. Custom Options

The admin can pass the data entered by the customer via the custom option. To use the custom option in the formula, the option should have the unique SKU. In the screenshot below there are 2 options - Width and Length, SKUs are "width" and "len". Accordingly, the variables will be {width} and {len}:



Drywall Panel (Product Price Formula example 1) (Default)

Custom Options

Title *	Input Type *	Is Required	Sort Order
Custom Length (ft.)	Field	Yes	0

Price	Price Type	SKU	Max Characters
0.00	Fixed	len	0

Title *	Input Type *	Is Required	Sort Order
Custom Width (ft.)	Field	Yes	0

Price	Price Type	SKU	Max Characters
0.00	Fixed	width	0

If a custom option is a Field or Textarea, the dynamic variable returns a string. If string is numeric it is converted into the number automatically.

If a custom option is a Dropdown, Checkbox, or Radio, i.e. has sub-options, the variables will return the sub-option title. The admin can use such variables as Boolean variables, i.e.:

```
if ({red} || {blue}) Price = 10;
else if ({green} && {qty} > 20) Price = 8;
```

If the admin has a Dropdown with numeric sub-options, the admin can use the values in the formula as well:

```
if ({size10} || {size20} || {size30}) Price = {size10} * 0.5 + {size20} * 0.4 + {size30} * 0.3;
```

If variable is not set it returns 0/false.

The admin can get the option price using variable {sku.price}, for example:

```
if ({leather}) Price = {leather.price};
if ({cloth}) Price = {cloth.price};
```

If the price relies on the length of text entered, the admin can use variable {sku.length}, for example:

```
if ({custom_text.length} > 0) Price = {custom_text.length} * 0.02;
```

If extension **Dynamic Product Options for Magento** is installed that supports quantities for options the admin can use variable {sku.qty}, for example:

```
if ({ram}) Price = 500 + {ram.qty} * 20;
```

The Dynamic Product Options extension for Magento –

https://www.itoris.com/magento-custom-options.html

3.4.2. Product Attributes

In addition to custom options the admin can use product attributes in the formula like {attribute_code}. The attribute code is available following **Catalog > Attributes > Manage Attributes.**

3.4.3. Configurable Options

If there is a configurable product, the admin can get the ID of selected sub-product via variable {configurable_pid}. For example:

```
if ({configurable_pid} == 961) Price = 299;
else if ({configurable_pid} == 962) Price = 289;
else if ({configurable_pid} == 963) Price = 319;
```

3.4.4. Other variables

Selected quantity: {qty}

Price after product options selected: {configured_price}

Price before options selected: {initial_price}

Price after all calculations applied: {price}

Special price configured in the product: {special_price}

3.5. Accumulative Price

If there is a long formula, it is possible to set up a few smaller ones and make the price accumulative. The admin can create multiple formulas by clicking "**Add New Formula**" button. The correct order should be set in field **Position**. The accumulative price is summed via variable {price}. Each next formula has {price} calculated by the previous formula. Example:

[Formula 1, position 1] - Material price

```
if ({cloth} && {width} > 0 && {len} > 0) Price = {width} * {len} * 5;
else if ({leather} && {width} > 0 && {len} > 0) Price = {width} * {len} * 10;
```

[Formula 2, position 2] - if chair selected in addition

```
if ({chair}) Price = {price} + 50 * {chair.qty}
```

[Formula 3, position 3] - discount for a bulk purchase

```
if ({qty} < 10) Price = {price} * 1;
else if ({qty} < 20) Price = {price} * 0.9;
else if ({qty} < 30) Price = {price} * 0.8;
else Price = {price} * 0.7;
```

3.6. Sub-Conditions

The extension allows having conditions directly in the formula using a special syntax. For example:

```
Price = {price} + ({size10} ? 24.99 : 0) + ({size20} ? 44.99 : 0) + ({size30} ? 64.99 : 0);
```

Here, it adds the custom option price to the final price depending on the dropdown option selected.

3.7. Mathematical functions

The admin can use math functions like sin, cos, tan, etc. in formulas or conditions. For example:

```
if ({side1} > 0 && {size2} > 0 && {angle} > 10) Price=0.5 *{size1} *{size2} *sin({angle}) *{rate}
```

The list of all supported math functions is available in the Appendix A.

Appendix A

The admin can use the following **condition** and **math operators**:

Operator	Explanation	Example
()	Sub condition	({sku1} + {sku2}) / PI
+	Addition	{sku1} + 10
-	Subtraction	{sku1} - 10
*****	Multiplication	2 * PI * {sku_radius}
/	Division	{sku1} / 1.5

Math functions:

Function	Explanation
abs(x)	Returns the absolute value of x
acos(x)	Returns the arccosine of x, in radians
asin(x)	Returns the arcsine of x, in radians
atan(x)	Returns the arctangent of x as a numeric value between -PI/2 and PI/2 radians
atan2(y,x)	Returns the arctangent of the quotient of its arguments
ceil(x)	Returns x, rounded upwards to the nearest integer
cos(x)	Returns the cosine of x (x is in radians)
exp(x)	Returns the value of Ex
floor(x)	Returns x, rounded downwards to the nearest integer
log(x)	Returns the natural logarithm (base E) of x
max(x,y,z,...,n)	Returns the number with the highest value
min(x,y,z,...,n)	Returns the number with the lowest value
pow(x,y)	Returns the value of x to the power of y
random()	Returns a random number between 0 and 1
round(x)	Rounds x to the nearest integer
sin(x)	Returns the sine of x (x is in radians)
sqrt(x)	Returns the square root of x
tan(x)	Returns the tangent of an angle

Constants:

Constant	Explanation
E	Returns Euler's number (approx. 2.718)
LN2	Returns the natural logarithm of 2 (approx. 0.693)
LN10	Returns the natural logarithm of 10 (approx. 2.302)

LOG2E	Returns the base-2 logarithm of E (approx. 1.442)
LOG10E	Returns the base-10 logarithm of E (approx. 0.434)
PI	Returns PI (approx. 3.14)
SQRT1_2	Returns the square root of 1/2 (approx. 0.707)
SQRT2	Returns the square root of 2 (approx. 1.414)

Variables:

Variable	Explanation
{configured_price}	Price after product options selected
{initial_price}	Price before options selected
{price}	Price after all calculations applied
{special_price}	Special price configured in the product
{attribute_code}	Any product attribute name enclosed into {}
{option_sku}	Call any product option by its SKU enclosed into {}
{option_sku.qty}	The quantity of sub-option if Dynamic Product Options installed
{option_sku.price}	Get the price of option by sku
{option_sku.length}	Get the length of entered text
{configurable_pid}	Returns the ID of currently selected product within the configurable product
{qty}	Product quantity selected