

Index Frontier® 5 Plus

OVERVIEW

ISSUE AGES	<p>0–80 (qualified); 0–80 (non-qualified); 0–75 (inherited IRA); 0–75 (inherited non-qualified)</p> <p>Issue age is the owner’s age at last birthday. For joint owners, the oldest age will be used as the issue age. If the owner is a non-natural person, the age of the eldest annuitant will be treated as the age of the owner for all purposes under this contract.</p>
PURCHASE PAYMENTS	<p>This product accepts a single purchase payment for the following tax qualifications:</p> <ul style="list-style-type: none"> • Non-qualified and inherited non-qualified • IRA (traditional, Roth, SEP, SIMPLE, and inherited) • 401(a) (including 401(k) traditional and Roth) • 403(b) (traditional and Roth) • Governmental 457(b) (traditional and Roth) <p>Additional purchase payments allowed during the first two months of the contract only. Terms begin only on the 6th and 20th of each month. Purchase payments received prior to the beginning of a term will be held in the purchase payment account until the beginning of the next term. Additional purchase payments have their own crediting terms.</p> <p>Minimum: Initial purchase payment: \$25,000; additional purchase payments: \$10,000</p> <p>Maximum: \$1 million for ages 0–80</p> <p>Maximum applies to the total purchase payments made to all annuities from MassMutual Ascend with the same owners or the same annuitants.</p>
FEES	<p>There are no upfront or recurring fees.</p>
ACCOUNT VALUE	<p>The account value equals the sum of the following values:</p> <p>Purchase payment account value: The purchase payment account value equals the purchase payments received, less any applicable premium tax or other applicable tax, less withdrawals and applicable early withdrawal charges, and plus interest credited.</p> <p>Declared rate strategy value: A declared rate strategy value equals the amount applied to the declared rate strategy, less withdrawals and applicable early withdrawal charges, and plus interest credited at the declared interest rate.</p> <p>Indexed strategy value: At the end of a term, unless you have made a performance lock election, the value of an indexed strategy is equal to:</p> <ul style="list-style-type: none"> • the investment base at the end of the term; plus • any increase for a rise in the index for the term, or for a dual performance trigger strategy, any fall in the index that does not exceed the buffer, adjusted for the applicable trigger rate; or minus • any decrease for a fall in the index for the term. <p>In this formula, the investment base at the end of the term is equal to the amount applied to the strategy at the start of that term, reduced proportionally for each withdrawal and related early withdrawal charge that you took during that term. After we calculate the investment base at the end of the term, we calculate any increase or decrease for a change in the index over that term. Any increase for the term is subject to the cap, upside participation rate or trigger rate for that term. Any decrease for the term is subject to the floor or buffer.</p>

CREDITING STRATEGIES

Upon issue, the owner selects from two types of crediting strategies: a **declared rate strategy** and **indexed strategies**. At the end of each term, the owner has the opportunity to reallocate funds among the available strategies. To reallocate funds, the owner must submit a strategy selection form prior to the end of that term. Unless the owner reallocates funds at the end of a term, funds are automatically applied to the same strategy (if available) for the next term. See product prospectus for more information on default strategy reallocations. Available strategies are subject to change at any time for new sales.

DECLARED RATE STRATEGY

Interest is credited daily on amounts held under a declared rate strategy based on the applicable declared rate. The declared rate for a term will not change during that term and is guaranteed to never be below the guaranteed minimum interest rate set out in the strategy endorsement.

INDEXED STRATEGIES

Indexed strategies include:

S&P 500®

- 1-Year -10% Floor with Cap*
- 1-Year 10% Buffer with Cap*
- 1-Year 10% Buffer with Performance Trigger
- 1-Year 10% Buffer with Dual Performance Trigger
- 1-Year 20% Buffer with Cap*
- 1-Year 20% Buffer with Performance Trigger
- 5-Year 10% Buffer with Upside Participation Rate*
- 5-Year 20% Buffer with Cap*

First Trust Barclays Edge Index

- 1-Year 10% Buffer with Cap*

iShares MSCI EAFE ETF

- 1-Year -10% Floor with Cap

iShares U.S. Real Estate ETF

- 1-Year -10% Floor with Cap

SPDR Gold Shares ETF

- 1-Year -10% Floor with Cap

*Performance lock available. See performance lock section below for more information.

Strategies linked to the S&P 500® Index (SPX), the iShares MSCI EAFE ETF (EFA), the iShares U.S. Real Estate ETF (IYR), and the SPDR Gold Shares ETF (GLD) provide returns based, in part, on the change in the price of the Index or ETF. The price change does not include dividends that might be paid on the underlying investments of the Index or ETF.

Strategies linked to the First Trust Barclays Edge Index (FTEDGE7) provide returns based, in part, on the change in net asset value of the underlying investments of the Index. The net asset value change includes dividends that might be paid on the underlying investments of the Index.

Not all strategies available with all indexes and ETFs.

The following strategies are only available for a term that starts in the first contract year: S&P 500 5-Year 10% Buffer with Upside Participation Rate and S&P 500 5-Year 20% Buffer with Cap.

For information on indexed strategy values before the end of a term, please see the product prospectus at [MassMutualAscend.com/RILArates](https://www.massmutualascend.com/RILArates).

Strategy availability and strategy feature availability may vary by state and by distribution. For current state approvals of newly added strategies and strategy features, please visit [MMAscendConnect.com/IF5PlusApprovals](https://www.massmutualascend.com/IF5PlusApprovals).

**UPSIDE
POTENTIAL
FACTORS:
CAPS, UPSIDE
PARTICIPATION
RATES AND
TRIGGER
RATES**

The value of an indexed strategy will increase if there is a positive change in the applicable index value during a term, and in some cases, when there is a negative change in the applicable index value during a term. Indexed strategy value increases are subject to the following upside potential factors: caps, upside participation rates, and trigger rates.

A **cap** is the largest positive index change at the end of a term that is taken into account to determine a gain.

An **upside participation rate** is the percentage of any positive index change at the end of a term that is taken into account to determine a gain.

A **trigger rate** is the rate of return used to determine a gain at the end of a term. There are two types of trigger rate strategies: performance trigger and dual performance trigger.

For strategies with a performance trigger, the trigger rate is credited when index performance is positive or level. For strategies with a dual performance trigger, the trigger rate is credited when index performance is positive, level or when the index loss does not exceed the buffer.

Before the end of a term, caps, upside participation rates, trigger rates and index changes are reflected in the option values used to calculate increases in strategy values. We can change the cap, upside participation rate or trigger rate for each new term of an indexed strategy.

**DOWNSIDE
PROTECTION
FACTORS:
FLOORS AND
BUFFERS**

Any loss for a term of an indexed strategy is subject to one of two limiting factors: a floor or buffer.

A **floor** is the largest negative index change used to determine a loss each term. -10% floor strategies are available. The -10% floor indexed strategies provide protection against index losses in excess of -10% at the end of each term, meaning any decrease during a term is limited to -10%.

A **buffer** is the portion of a negative index change at the end of a term that is disregarded to determine a loss. 10% buffer and 20% buffer strategies are available. The 10% buffer indexed strategies provide protection against the first 10% of index losses at the end of each term, and 20% buffer indexed strategies provide protection against the first 20% of index losses at the end of each term. Clients assume any losses in excess of the buffer.

Before the end of a term, floors and buffers are reflected in the option values used to calculate decreases in strategy values. We cannot change the floors or buffers for any indexed strategy that we currently offer.

**PERFORMANCE
LOCK**

Performance lock is a feature that allows clients to lock in indexed strategy gains and limit further losses for a term. Performance lock is an election to lock in the daily value percentage for the remainder of a term. A performance lock election for a term is effective on the second market close following our receipt of a request in good order. Once we receive a request in good order, a performance lock election for a term cannot be revoked or changed and clients will not be able to reallocate a performance locked one-year indexed strategy until the end of the term. If a client makes a performance lock election for an S&P 500 5-year strategy, the term will always end on the next anniversary of the term start date even if it otherwise would have continued for one or more additional years.

Performance lock is only available on select strategies.

WITHDRAWALS

Withdrawals are allowed any time prior to the annuity payout initiation date. All withdrawals are subject to IRS regulations and early withdrawal charges. Withdrawals will be taken first from the purchase payment account, then from the declared rate strategy, then proportionally from the indexed strategies having the shortest term.

Minimum withdrawal: \$500;

Minimum account value following withdrawal: \$5,000

PENALTY-FREE WITHDRAWAL ALLOWANCE

During the first contract year, 10% of the purchase payments may be withdrawn without an early withdrawal charge. After the first contract year, 10% of the account value on the most recent contract anniversary may be withdrawn without an early withdrawal charge. The sum of all previous withdrawals during the same contract year will be subtracted to determine the amount available. This free withdrawal allowance is not cumulative, and unused amounts do not carry over to the next contract year. Withdrawals from an annuity contract may have tax consequences.

EARLY WITHDRAWAL CHARGE

An early withdrawal charge is applied to surrenders and withdrawals that exceed the penalty-free withdrawal allowance during the first five contract years.

CONTRACT YEAR	1	2	3	4	5	6+
EARLY WITHDRAWAL CHARGE	8%	7%	6%	5%	4%	0%

EXTENDED CARE WAIVER RIDER

To help ease the strain of certain unforeseen events, an extended care waiver is available for no additional charge. If the owner is confined to a nursing home or other long-term care facility after the completion of the first contract year for at least 90 consecutive days, early withdrawal charges may be waived on withdrawals up to a full surrender.

Not available in Massachusetts. In California, the Extended Care Waiver Rider has been replaced with the Waiver of Early Withdrawal Charges for Facility Care or Home Care or Community-Based Services Rider, which provides for a waiver of early withdrawal charges under an expanded variety of circumstances.

TERMINAL ILLNESS WAIVER RIDER

Provided that the diagnosis is rendered more than one year after the contract effective date, up to 100% of the account value can be withdrawn without deduction of an early withdrawal charge if the owner or joint owner is diagnosed by a physician as having a terminal illness with a prognosis of 12 months or less.

This waiver may be used only once. Not available in Massachusetts.

SURRENDER VALUE

The surrender value equals the account value, less any applicable early withdrawal charges.

PAYOUT OPTIONS

The following options are available following the first contract year: fixed period payout, life payout, life payout with payments for at least a fixed period, and joint and one-half survivor payout.

DEATH BENEFIT VALUE

The death benefit amount is the greater of the account value or the purchase payments, reduced proportionally for all withdrawals, but not including amounts applied to pay early withdrawal charges. In either case, it is reduced by premium tax or other taxes not previously deducted.

PREMIUM TAX

If the owner elects to take an annuity payout benefit, premium tax will be deducted if the owner lives in a state that has a premium tax on annuitizations.

If a death benefit is paid under a payout option, premium tax will be deducted if the beneficiary lives in a state that has a premium tax on annuitizations.

STATE VARIATIONS

The Index Frontier 5 Plus is not available for contracts issued in Missouri or Nebraska. *Strategy availability and strategy feature availability may vary by state and by distribution. For current state approvals of newly added strategies and strategy features, please visit MMAscendConnect.com/RILAapprovals.*

Annuities are intended to be long-term products and may not be suitable for all investors. Withdrawals from an annuity contract may have tax consequences.

This product can only be sold through a Broker/Dealer that is contracted with MassMutual Ascend Life Insurance CompanySM. Any sales solicitation must be accompanied or preceded by a prospectus. To obtain a copy of the prospectus, please visit MassMutualAscend.com/RILArates.

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