

Index Protector 7

OVERVIEW

ISSUE AGES

0–85 (qualified); 0–85 (non-qualified); 0–75 (inherited IRA); 0–75 (inherited non-qualified)

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.

PURCHASE PAYMENTS

This product accepts a single purchase payment for non-qualified, traditional 403(b), Roth 403(b), traditional IRA, Roth IRA, SEP IRA, SIMPLE IRA, Inherited IRA, Inherited non-qualified, 401(a) and 457 plan funds. 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 interest crediting terms.

Minimum: Initial purchase payment: \$100,000; additional purchase payments: \$25,000

Maximum: \$2 million for ages 0-75; \$1.5 million for ages 76-80; \$1 million for ages 81+

Maximums apply to the total purchase payments made to all annuities from MassMutual Ascend with the same owners or the same annuitants.

OPTIONAL RIDER

IncomeDefender: This guaranteed income rider offers a 8% rollup credit, a 7-year rollup period and payout percentages that increase 0.10% each year your clients wait to start income payments until it reaches 7.5% for single lifetime income and 6.5% for joint lifetime income.

Please see the Rider Overview for complete details, including terms and limitations, and the annual rider charge rate.

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 and MVAs 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 incurring an early withdrawal charge or MVA 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.

INTEREST STRATEGIES

Upon issue, the owner selects from two types of interest strategies: a **declared rate strategy** and **indexed strategies**. At the end of each term, the owner has the opportunity to transfer funds among the available interest strategies. To transfer funds, the owner must submit changes at least one day before the new term begins. Unless the owner transfers funds at the end of a term, funds are automatically applied to the same strategy for the next term. Funds held in the seven-year strategy are automatically applied to the S&P 500[®] 1-year strategy, unless the owner elects otherwise. Available strategies are subject to change at any time for new sales.

TERM

- The seven-year cap lock strategy has a seven-year term. The cap is locked in for the entire seven-year term. This strategy may only be selected during the first contract year.
- All other strategies have a one-year term.
- **With all indexed strategies, interest is credited annually** on the last day of each term year.
- Clients may change their strategy allocations at the end of each one or seven-year term.

INTEREST RATES

Purchase payment account interest rate: Interest is credited daily on amounts held in this account based on an applicable interest rate. This interest rate is guaranteed to be at least equal to the guaranteed minimum interest rate set out in the contract.

Declared interest rate: Interest is credited daily on amounts held under a declared rate strategy based on the applicable declared interest rate. The current declared interest rate will not change during the strategy's term and is guaranteed to never be below the guaranteed minimum interest rate set out in the contract.

Indexed interest rate: An indexed interest rate is determined, in part, by the performance of the S&P 500[®], S&P 500 Risk Control 10% Index (SPXAV10P), S&P U.S. Retiree Spending Index (SPRETIRE), iShares U.S. Real Estate ETF (IYR) or the iShares MSCI EAFE ETF (EFA). Indexed interest is credited annually on the last day of each term year. Indexed strategies include:

- S&P 500[®] 1-year point-to-point with cap
- S&P 500[®] 7-year cap lock annual point-to-point
- S&P 500 Risk Control 1-year point-to-point with participation rate
- S&P U.S. Retiree Spending 1-year point-to-point with participation rate
- iShares U.S. Real Estate 1-year point-to-point with cap
- iShares MSCI EAFE 1-year point-to-point with cap

Point-to-point indexed strategy: The indexed interest rate for a term year is determined by comparing the index value on the last day of that term year to the value on the first day of that term year. The indexed interest rate for that term year equals the index change, up to the cap or multiplied by the participation rate. The indexed interest rate will never be less than 0%.

Strategies may not be available in all states.

ACCOUNT VALUE

The account value equals the sum of the following values:

Purchase payment account value: The purchase payment account value equals the purchase payments received, less amounts applied to an interest strategy, less withdrawals and applicable early withdrawal charges, plus or minus applicable MVAs, plus interest credited, less any applicable rider fees and charges, and less any applicable premium tax or other applicable tax.

Declared rate strategy value: A declared rate strategy value equals the amount applied to the declared rate strategy, less any amounts withdrawn, including any applicable early withdrawal charges on those amounts, plus or minus applicable MVAs, plus interest credited at the declared interest rate, and less any rider fees and charges.

Interest strategy value: An interest strategy value equals the amount applied to that strategy, less withdrawals and applicable early withdrawal charges, plus or minus applicable MVAs, plus indexed interest credited, and less applicable rider fees and charges.

SURRENDER VALUE

The surrender value equals the greatest of the account value less any early withdrawal charges and MVAs, the guaranteed minimum surrender value or the return of premium guarantee (after contract year three).

**GUARANTEED
MINIMUM
SURRENDER VALUE
(GMSV)**

The GMSV equals 87.5% of purchase payments, plus interest credited daily at a guaranteed minimum rate less prior withdrawals, net of applicable early withdrawal charges and market value adjustments. The GMSV will not be less than the minimum values required by each state.

Alaska and New Jersey: The GMSV equals 90% of purchase payments, plus interest credited daily at a minimum guaranteed rate, less withdrawals and net of applicable MVAs and early withdrawal charges.

**RETURN OF
PREMIUM
GUARANTEE AFTER
CONTRACT YEAR
THREE**

As an added benefit to the contract holder, a return of premium guarantee is included in this product. The amount payable upon surrender, or used to determine annuity benefit payments or the death benefit, will be the greatest of the surrender value, the guaranteed minimum surrender value or the return of premium value. The return of premium value is the sum of all purchase payments received, minus withdrawals and applicable taxes and rider charges. This feature is available after the third contract year.

FEES

There are no up-front sales charges or fees.

**EARLY
WITHDRAWAL
CHARGES**

An early withdrawal charge is applied to surrenders and withdrawals for the first seven contract years.

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

**MARKET VALUE
ADJUSTMENT
(MVA)**

During the first seven contract years, a market value adjustment (or MVA) will apply if the contract is surrendered or a withdrawal above the free withdrawal allowance is taken.

An MVA is an adjustment to the withdrawal based on how market interest rates have changed since the contract was purchased. If interest rates have been fairly steady or have gone up, the adjustment will be negative and may decrease contract values. If interest rates have gone down, the adjustment may be positive and may increase contract values. The amount subject to the adjustment is the portion of the account value withdrawn after the 10% free withdrawal allowance. This amount is then multiplied by the MVA factor.

A positive MVA will never be more than the early withdrawal charge that would apply to the withdrawal or surrender. A negative MVA will never reduce the surrender value below the minimum required by law.

**FREE WITHDRAWAL
ALLOWANCE**

During the first contract year, 10% of the purchase payments may be withdrawn without an early withdrawal charge or MVA. After the first contract year, 10% of the account value on the most recent contract anniversary may be withdrawn without an early withdrawal charge or MVA. 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

Withdrawals are allowed any time prior to the income start date. All withdrawals are subject to IRS regulations, early withdrawal charges and MVAs. Withdrawals will be taken first from amounts applied to the purchase payment account, then from the declared rate strategy, then from the other interest strategy(ies) with the shortest term. If there are multiple interest strategies that meet that criterion, withdrawals will be taken proportionally from all interest strategies with the shortest term. Amounts withdrawn from an indexed strategy prior to the end of a term year will not be credited with interest.

Minimum withdrawal: \$500;

Minimum account value following withdrawal: \$5,000

ADVISORY FEE WITHDRAWALS

Amounts applied to pay advisory fees of up to 1.50% per year are not subject to an early withdrawal charge or MVA and do not reduce the free withdrawal allowance. Additionally, such advisory fee payments do not affect income rider benefits.

This favorable treatment of advisory fees is provided under endorsement E6061519NW. For states that haven't approved the endorsement, the favorable treatment is non-contractual.

EASY SYSTEMATIC PAYMENT (ESP) PROGRAM (NON-CONTRACTUAL)

The fixed dollar and RMD options are available. Refer to the Terms and Conditions section of the applicable ESP program election agreement form for eligibility requirements. ESP payments reduce the amount available under the free withdrawal allowance. Indexed interest is credited only at the end of a term year. Amounts withdrawn under the ESP program before the end of a term year will not earn any indexed interest.

PAYOUT OPTIONS

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

DEATH BENEFIT

The greatest of the account value, GMSV or return of premium guarantee (after contract year three) will be paid upon the death of the owner. A spouse who is the surviving joint owner or sole surviving beneficiary may become the successor owner.

STATE VARIATIONS

Refer to State Approval Chart for non-MVA states.

Alaska and New Jersey: The GMSV equals 90% of purchase payments, plus interest credited daily at a minimum guaranteed rate, less withdrawals and net of applicable MVAs and early withdrawal charges.

The S&P 500 Risk Control 10% Index refers to the S&P 500 Average Daily Risk Control 10% Price Return Index. For more information, visit US.SPIndices.com and search keyword SPXAV10P.

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